LET’S “TALK” ABOUT AUTOMMUNITY

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Dr. Diulus: Hi, everyone, welcome to The Fat Summit 2. I'm excited to introduce Dr. Tom O'Bryan. Dr. O'Bryan is a Functional Medicine doctor and an internationally recognized speaker and workshop leader, specializing in the complications of non-celiac gluten sensitivity and celiac disease and how they occur both inside and outside the intestines.

He's the founder of the Dr.com. He recently hosted the paradigm shift, The Gluten Summit - A Grain of Truth, bringing together 29 of the world's experts on celiac disease and non-celiac gluten sensitivity.

So, welcome, Dr. O'Bryan.

Dr. O'Bryan: Thank you very much. It's an honor to be with you today. Thank you.

Dr. Diulus: It's a pleasure to have you. So for those out there who haven't seen your work, tell us a little bit about your story and how you got here as opposed to the traditional medical practice.

Dr. O'Bryan: Well, when I was still in my internship, my ex and I could not get pregnant. And so I called the seven most famous holistic doctors I've ever heard of. This was in 1979. And I'd asked them all what you do you do for infertility. And they all told me their thoughts and they'd say things like “You know what a category one is?” And I'd say, “No.” And they'd say, “Learn.”

So I wrote down category one. And I put a protocol together and we were pregnant in six weeks. And my neighbors in married housing, we lived on campus at the time, they've gone through artificial insemination and nothing had worked for them at all. And they asked if I'd work with them. And my response was, “Well, I don't think that it's going to harm you in any way. And sure why not?” And they were pregnant in three months.

Dr. Diulus: Wow.

Dr. O'Bryan: So before I got into practice, I was hot to trot and get out in the world and help every couple get pregnant that wanted to get pregnant.

Dr. Diulus: It's a little bit concerning though if you have a group of women who say that you got them pregnant, right?

Dr. O'Bryan: Well, it's actually quite flattering. I'd get these cards every year at Christmas of these babies at 2 years old and 3 years old and 4 years old, and it's really quite nice. So from that experience, I learned—and we've helped hundreds of people since then with infertility or recurrent miscarriages or hormone irregularities. And there's little in medicine that's all or every. But this turned out to be an every.

Dr. Diulus: Okay.

Dr. O'Bryan: Every couple that had some problem in that arena, every single one of them had problems with foods that they were eating that they didn't know were a problem for them.

Dr. Diulus: Okay.

Dr. O'Bryan: And when you have a food sensitivity in general and you eat the food, it triggers inflammation. And as we know, inflammation is fire. At the cellular level, it's always fire. And so one of the rules of thumb became in my practice, stop throwing gasoline on the fire. And so you have to learn what is inflammatory to my body. What does my body say it's not good for? Whether I feel good when I eat it or not, if internally it's triggering inflammation...The people that are blessed are the ones that get stomach pains or abdominal problems when they eat certain foods because it's obvious. It's a no-brainer.

Dr. Diulus: Right.

Dr. O'Bryan: But if you get a migraine, you don't know that it may be from the food you ate last night that's triggering the migraine eight hours later or 12 hours later.

Dr. Diulus: Yup.

Dr. O'Bryan: If you have infertility or if you have recurrent miscarriages, you don't know that it's the food,
it's the toast you had for breakfast and the sandwich for lunch and the pasta for dinner that accumulatively has put more gasoline on the fire and causing this huge inflammatory cascade. You don't know.

So the ones that get sick when they eat a food are actually blessed. Because there's no arguing with that. It's the ones that don't feel sick when they eat the food that you have to educate them and do the test, the proper test. And then identify, "Look, here is the evidence. This is the problem. So let's just give this a trial period and see what happens."

And the results have turned out time and time and time again to be almost miraculous in terms of—I'm on stage a lot now and I teach a lot. And in this last year, I've been using a particular case study that was published in early 2015 of a 3-1/2-year-old who was diagnosed with celiac disease.

And when she was diagnosed with celiac disease, they did an endoscopy, which is sending a tube down the mouth, down the throat, past the stomach, into the small intestines. And they look at the intestines and they snip a little piece. And they will take it out and look at it under a microscope. And they said, "You daughter's got celiac disease." "Well, your daughter also seems to have something wrong with her eye. You need to take her to an ophthalmologist right away."

So the gastroenterologist made an appointment for them with an ophthalmologist one week later. And so they went in one week later to see the ophthalmologist. And you see the picture in the journal article where they had the child look down. So the pupil of the eye, the black part of the eye is looking down. And they lift up the eyelid. And there's this big, ugly, mucusy looking tumor on the eye.

And the differential diagnosis, there are a whole bunch of things they thought it might be. But what they said is, "This looks like to us is Kaposi's sarcoma, which is a cancer from HIV, being positive for HIV, because the mother had a history of HIV. So they jumped to that conclusion. But when they checked the little girl's blood, she was negative for HIV. So they said, "Well, what is this?"

We don't know. So we have to do a biopsy. We're going to cut out a piece of your daughter's eye and take a look at this tumor. To do that, we have to put her under general anesthetic."

And the parents said, "No, no, no, no, our child was put under general anesthetic last week for the celiac diagnosis and she had a reaction to the medication. We want to give her another week or so to recover before we do this. So we'll come back in a week and then we'll do this again."

And so they came back a week later to have the general anesthetic and have the biopsy to see what this tumor was in the eye. And the ophthalmologist when they looked in the eye, "Well, wait a minute here," and he pulled out the records of the week before and looked at the picture they had taken and this little girl's tumor was smaller.

He said, "Well, what's this?" And the only thing that was different is that when the child was diagnosed with celiac disease, the parents immediately put her on a gluten-free diet. Nothing else changed. So the ophthalmologist decided, "Let's wait a little bit and see what happens here."

So the next picture is two months later and the tumor's completely gone, completely gone. And they wrote in this article in the medical journal on ophthalmology, they wrote that “We don't understand what happened here but it looks like this autoimmune mechanism, causing a tumor in the eye, was caused by a sensitivity to wheat, and produced celiac disease.”

Dr. Diulus: Interesting.

Dr. O'Bryan: And we see that in the literature again and again and again. The most unusual things that you think may not be caused by food sensitivity, specifically wheat, that's why I studied them all, is you can reverse. And there are studies reversing ALS, which is a life-threatening diagnosis, Lou-Gehrig's disease, with the gluten-free diet. And all the lesions in the brain that show on the MRI, they're gone. They're gone in a year and a half to two years. The lesions are gone on a gluten-free diet.

Now, that obviously is not in every ALS patient but the neurologists who write these articles, and I have five articles on ALS, they say, “You have to check every ALS patient because if it's something so simple as a sensitivity to wheat, get the wheat out of there.” And it's kind of rare for all of the patients to get ALS, but it happens. So you just want to check. And the ophthalmologist with the 3-1/2-year-old said, “Every time you have a tumor in the eye, you just want to check because it's so simple and non-threatening a protocol.” And that's the way it is with this gluten sensitivity, with or without celiac disease, is when you have a condition that is just not responding the way it should to the normal protocols that you think should fix that problem, whatever it is, you just check.

Dr. Diulus: Check.

Dr. O'Bryan: And see, is there a problem? I'll give you one more example and then we'll move on. In the Journal of Gastroenterology, they published a paper on children...
with drug-resistant epilepsy.

**Dr. Diulus:** Okay.

**Dr. O’Bryan:** Now, if you’re a parent and your child’s having seizures and you’ve been to two or three neurologists and they’ve all tried two or three different drugs that not working, that child is diagnosed with drug-resistant epilepsy. It’s terrible to see your child go through something like that and it’s very scary. They published a paper that said 50% of children with drug-resistant epilepsy go into complete remission on a gluten-free diet, 50%.

**Dr. Diulus:** Wow.

**Dr. O’Bryan:** Now, why don’t our neurologists know that? Because the article was written in a gastroenterology journal and neurologists don’t read gastroenterology journals. They read neurology journals.

**Dr. Diulus:** And so it wasn’t a ketogenic diet. It was gluten free.

**Dr. O’Bryan:** Just a gluten-free diet.

**Dr. Diulus:** Fascinating.

**Dr. O’Bryan:** Now, we know that a ketogenic diet, in many cases, is helpful with seizures.

**Dr. Diulus:** Right, right.

**Dr. O’Bryan:** But when your protocols don’t work, when they should work and they don’t work, just consider maybe it’s something so simple as a sensitivity to a food. Because I’ve got case after case of reversing cancers, reversing tumors, reversing life-threatening diagnoses of diseases in the brain, reversing Alzheimer’s, reversing Parkinson’s, reversing rheumatoid arthritis, MS, lupus. So many different diseases may be arrested by putting people one a gluten-free diet, maybe, it’d be very silly to say everyone has a sensitivity to gluten. But it’s rational to say anyone may have a sensitivity to gluten.

**Dr. Diulus:** Right. So this is a really sort of personal topic for me, as we talked about a little bit before. I was diagnosed 20-plus years ago and I was about 100 pounds heavier than I am right now when I was diagnosed.

**Dr. O’Bryan:** Congratulations.

**Dr. Diulus:** Yeah, thank you. And they said, “First of all, this doesn’t make sense because you’re supposed to be thin. And it also doesn’t make sense because you really say you don’t have any symptoms.” It was kind of random I got a biopsy and that was... and then I did the elimination diet and then they get fixed. So there weren’t even the antibodies testing back then.

So there’s a couple points that you brought up in there about looking for these things even when it’s not the most obvious cause. But also let’s talk about, for the audience, what is the difference between celiac disease and gluten sensitivity and the distinctions between the two?

**Dr. O’Bryan:** Sure. You bet. If you pull at a chain, the chain always breaks at the weakest link. It could be at one end, at the middle, the other end. It could be your heart, your brain, your liver, your kidneys. But when you pull on the chain, that’s where the chain’s going to break. Right? So the pull on the chain is inflammation. So anything that triggers inflammation is pulling on your chain. And if you have a weak link, that’s where you’re going to eventually get symptoms.

So what happens with celiac disease if you have a particular gene—so genes don’t determine that you get a disease, for the most part. Genes determine that you are vulnerable to getting a disease. It’s a weak link in your chain.

**Dr. O’Bryan:** And let me tell you, it doesn’t happen because I treat osteoporosis every day. And they come to me with the diagnosis of osteoporosis and nobody’s checked.

**Dr. Diulus:** And whether or not it manifests as full-fledged celiac disease, you have the sensitivity to not breaking down wheat completely and it manifests in your gut. The symptoms will manifest eventually in your gut by wearing down of the shags, I call it shag carpeting.

Your intestines are a tube. The tube is 20 to 25 feet long, kind of winds around in there. The inside of the tube is lined with shag carpeting. They’re called microvilli. But they’re shags. This shag absorbs calcium. This shag absorbs vitamin C. This shag absorbs amino acids. All the shags absorb different nutrients. While celiac disease is when your shags wear down and then you’ve got Berber. And if you got Berber, you’ll only absorb calcium. You get osteoporosis. It’s not rocket science.

**Dr. Diulus:** Right.

**Dr. O’Bryan:** But it just makes perfect sense. That’s why in the Annals of Internal Medicine in 2006, they said, every osteoporotic patient just needs to be checked for celiac disease, because it’s so common the cause.

**Dr. Diulus:** And let me tell you, it doesn’t happen because I treat osteoporosis every day. And they come to me with the diagnosis of osteoporosis and nobody’s checked.

**Dr. O’Bryan:** Yeah exactly. They don’t check. Let’s stay with that topic and then we’ll get to the
Dr. Diulus: Yup.

Dr. O’Bryan: The protocol for osteoporosis once it’s diagnosed is to give bisphosphonates, that’s a category of drugs.

Dr. Diulus: Right.

Dr. O’Bryan: And there’s no argument, when you look at medical journal articles about bisphosphonates and you see the pre and the post-x-rays. The post-x-rays, there’s more bone. There is no question. You look at the x-rays, there’s more bone.

Dr. Diulus: Or at least it preserves bone.

Dr. O’Bryan: Many of the studies, there’s more bone. In the study showed that women that take bisphosphonates, post-menopausal women that take bisphosphonates, and post-menopausal women with the same type of osteoporosis that do not take bisphosphonates have about the same level of fractures.

Dr. Diulus: Right.

Dr. O’Bryan: That the drug don’t seem to make a difference. But wait a minute, “No, it’s either you make more bone.” And so what the drug companies emphasize to doctors—they show them the studies. They show them the pictures. It makes more bone. It makes more bone. The problem is the bone is balsa wood.

Dr. Diulus: Right.

Dr. O’Bryan: It’s not oak. So the balsa wood breaks very easily. Why does it break? Because if you have inflammation in your gut and you’re not absorbing your nutrients, you’ll lay down more bone. It’s the skeleton of the bone. So on an x-ray it looks really good. But it’s not filled in with the bricks. You’ve got the girders of a building, the girders of a building, the frame of it. But you don’t have the drywall and you don’t have the bricks to make it nice and solid.

That’s why women who take bisphosphonates have about the same number of fractures as the women that don’t. So if you just want to check, and as you say, every day, you see these people in practice and their doctors haven’t checked them.

Dr. Diulus: Right.

Dr. O’Bryan: You just want to check.

Dr. Diulus: Or an A1c, but that’s a whole separate discussion.

Dr. O’Bryan: Right, right.

Dr. Diulus: Okay. The orthopods are running labs on you now.

Dr. O’Bryan: Right. So now, let’s differentiate between celiac and non-celiac gluten sensitivity. And the big kahuna term is actually non-celiac wheat sensitivity. So if you have the gene and if you’re exposed to the trigger, the gasoline on the fire, which is wheat, you develop your shags wearing down that’s called celiac disease.

Dr. Diulus: Right.

Dr. O’Bryan: Those that don’t have the gene, I’ll correct that because 50% of non-celiac gluten sensitivity patients have the gene for celiac but they don’t have celiac disease. So if it doesn’t manifest as celiac disease, it may manifest anywhere else in your body. And so when the studies have been published to try to differentiate the two what they say is that celiac disease causes the gut problems, the wearing down of the gut. And non-celiac gluten sensitivity causes—and the term of the use is lack of well-being, meaning everywhere else in your body...

Dr. Diulus: Right. Okay.

Dr. O’Bryan: ...there’s something that may go wrong. And in Italy, there are 34 centers designated by the government as a gluten-related disorder centers. And so if you have a concern about a sensitivity to wheat, you go to one of these centers, there’s 28 of them that are gastroenterology centers, 4 that are pediatric, a couple that are allergy centers. You go there for your diagnosis because if you get a diagnosis that you’ve got a problem with wheat, celiac or not, then all the food you buy you get a tax credit with the government. But you have to be diagnosed in one of those 34 centers around the country of Italy.

So they did a study of people that came to them, 17,000 people. They did a study of them. And 93% of the people that came to those centers had non- celiac gluten sensitivity, 7% had celiac disease. And they looked at the symptoms that the people presented with. And what they found was that with NCGS (non-celiac gluten sensitivity), it was headaches, fatigue, joint pain, muscle aches, brain fog. The list went on and on and on of every other system of your body. But for celiac, it was gut problems.

So the difference between celiac and non-celiac gluten sensitivity, it’s a 9 to 1 ratio, 9 more people will have a sensitivity to wheat than will have celiac disease. So out of 10 people that have the problem, 1 has celiac, 9 have non- celiac wheat sensitivity that’s going to manifest somewhere else in the body.

Dr. Diulus: So what is it about the wheat that causes so many problems for people?

Dr. O’Bryan: Good question. Hallan and Fasano at Harvard published a paper last year. They looked at
They looked at all four groups then what did they find? They found that all four groups, when exposed to wheat, triggered the genes in the gut that cause intestinal permeability.

Dr. Diulus: Okay.

Dr. O’Bryan: All four groups get intestinal permeability within five minutes of exposure.

Dr. Diulus: Really?

Dr. O’Bryan: Within five minutes of the wheat getting down into the gut, you got permeability. Now, what that does mean? So here’s our shags.

Dr. Diulus: Right.

Dr. O’Bryan: Going through the tube of the intestines. The shags are covered with a cheesecloth. So when you eat a filet mignon, really nice dinner, you have a filet. Most of us chew three or four times and we swallow. We should chew 30 times before we swallow to break it down. But we don’t. We shovel more than we eat, right? So these clumps of filet, kind of ground down a little bit with three or four chews, get down there. The stomach acid starts to break them down, break down the fibers more. But they’re still big fibers.

So they get into the small intestine and those fibers of meat can't get through the cheesecloth to get into the bloodstream. They're too big. That's why the pancreas puts enzymes into the intestines. And the gallbladder puts enzymes into the intestines. And the microbiota puts enzymes into the intestines to break down the food more. So that it keeps being broken down smaller and smaller and smaller as it’s going down the tube. Until it gets so far down the tube, now it's small enough to fit through the cheesecloth. And it gets to the cheesecloth further down the tube.

And that’s the way we absorb all of our food. Some foods get absorbed right in the front part, because they’re already really small, like B-vitamins break off of food really quickly. And they are absorbed in the first part of the intestines as soon as it comes out of the stomach. That’s why people that have celiac disease have B-vitamin deficiency so commonly is because they’re not absorbing.

So what happens though when you eat wheat is, within five minutes of getting wheat, of eating wheat and it gets into your gut, you tear the cheesecloth. When you tear the cheesecloth, bigger molecules of food get in through the tears of the cheesecloth before there's enough time for it to get moved down further the intestines to get broken down the way it should be.

So when you get tears in the cheesecloth, they're called macromolecules. Big molecules get through into the bloodstream. So now you’ve got a big molecule of filet mignon getting into the bloodstream. Now, they’re still really tiny to our naked eye but they’re still macromolecules to the body, right?

They get into the bloodstream and your immune system says, “Whoa, what's this?” This is not something I can use to build new bone tissue or new muscle or new brain cells. I better fight this. This is an invader.” And you make antibodies to beef; or you make antibodies to bananas, if the banana got through the tears in the cheesecloth; or tomatoes; or chicken; or whatever macromolecules get through, that’s the person that does a 90-food allergy test. And they come back sensitive to 25 or 30 foods. And they say, “Oh my God, that’s everything I eat.”

Dr. Diulus: Or 43.

Dr. O’Bryan: Yeah, 43 foods. All right. And you say, “Oh my God, that’s everything I eat.” Well, of course, it is. Because your body is trying to protect you.

Dr. Diulus: Right.

Dr. O’Bryan: There’s nothing wrong with your immune system. It’s doing the job it’s supposed to. Heal the intestines and then wait six months and, usually, you’re fine with that food, usually. You are. You go back and you recheck and the 43 foods have now gone down to three. Avoid those three and you’re healthy and vibrant and your symptoms are gone.

Dr. Diulus: Well, and this is one of the issues with the IgG testing for food sensitivities is exactly the dynamic process exactly what you’re talking about.

Dr. O’Bryan: Yeah. Now, to continue the story.

Dr. Diulus: Right.

Dr. O’Bryan: So when you eat wheat, you tear the cheesecloth within five minutes, every human. Let me say that again, every human tears the cheesecloth every time they eat wheat. Whether they feel fine or not, you tear the cheesecloth. We have a whole new body every seven years. Every cell in your body regenerates. Some cells are really
quick, like the inside lining of your gut. The cheesescloth is every three
to seven days. You have a whole new lining.

So you eat toast for breakfast, you tear the cheesescloth, it heals. You
eat a sandwich for lunch, you tear the cheesescloth, it heals. You
had pasta for dinner, you tear the cheesescloth, it heals. Croutons on
your salad, tear the cheesescloth, it heals. Day after week after month
after year after year until one day, you don't heal anymore. And when
you don't heal anymore, now you have what is called pathogenic
intestinal permeability. The slang term is the leaky gut.

Dr. Diulus: Right.

Dr. O'Bryan: And now these
macromolecules get through every
single day of anything that you eat
or everything that you eat. It just
depends, one or all. And the result
is that you make antibodies to that
food. And then there is another
concept I'm going to introduce here
because it's very relevant for people
with food sensitivities and why
Gluten sensitivity affects so many
different parts of the body. The
concept is called molecular mimicry.

So when we make antibodies—when
the immune system says, “Whoa,
what's this? I better fight this.”
And let's say you make antibodies
to wheat. When you make those
antibodies to wheat, the most
common portion of wheat that the
body fights is called alpha-gliadin. It's
33 amino acids long. But I'm going to
say AABCD. I am not going to say 33
letters, but just AABCD. So now you
make antibodies looking for AABCD.
The antibodies are going through
your bloodstream. They're traveling
everywhere. Now, the bloodstream
is a highway. It's just a highway.

So when you do a blood draw,
you're just looking to see what's on
the highway. Like you could have
enough thyroid hormone and when
you do a blood test...but you have
lots of thyroid symptoms because
being on the highway doesn't mean
it's getting into the cells and being
used properly. It's just a highway.

So now you've got the antibodies
to wheat on the highway looking for
AABCD. And everything's bouncing
around in there. There is no lanes
of traffic. If you ever see a video of
blood flowing, it's like boom, boom,
boom. It's just constant bumper
cars in there. So you've got the
antibodies. And they fire chemical
bullets called cytokines to destroy
whatever it is they're trained to look
for. They're looking for AABCD.

Now, when the blood goes past the
thyroid, the inside of the thyroid
facings the bloodstream is made
up of proteins and fats. The walls
are made up of proteins and
fats. The proteins are made up of
amino acids, hundreds of amino
acids long. Part of the surface of
the thyroid facing the bloodstream,
hundreds of amino acids long,
includes AABCD.

So now you've got this antibody
looking for wheat that goes, “Oh,
look, AABCD,” and it fires a chemical
bullet at your thyroid. Now, you've
got a damaged thyroid cell. Now,
the body has to make antibodies
to thyroid to get rid of the damaged
thyroid cell. And then you make new
thyroid cells. It happens every day.
That's why there's a normal level of
antibodies to your thyroid or to your
brain or to your liver, your heart.

There's a normal level because your
immune system is getting rid of the
old cells, the sick cells, and making
room for new cells to come. That's
not a problem at all. It's a wonderful
system. We wouldn't be here
without that.

But you had toast for breakfast,
antibodies to AABCD. You had a
sandwich for lunch, antibodies to
AABCD. Pasta for dinner, croutons,
a cookie, a little bit of this, a little bit
of that with wheat day in, day out,
day in, day out. And you keep firing,
if the weak link in your chain was
the thyroid and AABCD goes after
the AABCD on your thyroid, those
antibodies go after the thyroid, you
keep it in the thyroid, the thyroid,
the thyroid. You make antibodies
to your thyroid to get rid of the
damaged cell. Antibodies to get rid
of the damaged cell. Antibodies to
get rid of the damaged cell.

Well, that's a tongue twister if you
say that fast. Then eventually the
immune system becomes self-
perpetuating making antibodies
for your thyroid. Now, you start to
develop the autoimmune disease
Hashimoto’s. That is the mechanism,
the main mechanism—because
there are seven mechanisms. But
that's the main mechanism of how
a sensitivity to a food will cause
an autoimmune condition, is by
molecular mimicry.

AABCD looks enough like wheat that
the antibody gets confused and goes
after your thyroid or your myelin
wrapped around your nerves in
your brain, which causes MS or the
cerebellum in your brain or in your
joints. And there are studies on all
of these different molecular mimicry
mechanisms that occur.

Dr. Diulus: And we tend to see
autoimmune conditions going
together, as well.

Dr. O’Bryan: Exactly. Exactly. I think
it’s fairly rare that someone gets
one autoimmune condition. You’re
diagnosed with one.

Dr. Diulus: Right.

Dr. O’Bryan: Because that’s what
your symptoms are so that’s what
they look for. But if you were to look
deeper, you would see that you got
two or three or four weak links in
your chain and this is just the main
one. You've killed off enough tissue there that, that's where the main symptoms are. So that's the one they look for. Yup, there it is, you got Hashimoto's or you got lupus or you got diabetes or whatever it should be.

Dr. Diulus: Right. So how do people get tested? You're basically saying that pretty much everybody, if I'm hearing you correctly, needs to limit their exposure to wheat.

Dr. O'Bryan: Well, I never say that because then I sound like a nutcase, right?

Dr. Diulus: Got it.

Dr. O'Bryan: But I do say, everyone who is not satisfied with their current level of health, if the protocols you're implementing are not working well enough, just check properly.

Dr. Diulus: So how do we do that, for the spectrum?

Dr. O'Bryan: Right. Mrs. Patient, proteins are like a pearl necklace. Hydrochloric acid undoes the clasp of the pearl necklace. Now you have a string of pearls. Our enzymes are supposed to act like scissors to cut off each pearl of the pearl necklace. Each pearl is called amino acid. And those amino acids then go through the cheesecloth into the bloodstream your body uses them to make new cells, whatever kind of cell its making. The problem with wheat is that we don't have the scissors to cut off each pearl of the pearl necklace. Wheat is so twisted up that our enzymes that the body makes can't break it down. It just can't. The best our enzymes can do is to break it into clumps of the pearl necklace.

Dr. Diulus: Okay.

Dr. O'Bryan: There's a 33-pearl clump that I just talked about, the alpha-gliadin. There's a 17-pearl clump, 11-pearl clump, 21-pearl clump. There are all these different clumps of the pearl necklace that's the best we can do. Now, those clumps are inflammatory. They're gasoline on the fire in the gut. Every human tears the cheesecloth every time they eat wheat because they're inflammatory. They just are. They're not meant for human consumption.

Yes, we've been eating it for 10,000 years. No, we're not meant to eat it. We've been on the planet much, much longer than 10,000 years. And humans can't break it down completely. Yes, it's got benefit for us. Yes, we've saved millions of lives by shipping wheat over to Africa when they've got a famine. And they eat the wheat and they survive. So the body can use some of the protein, yes, they can, but it causes inflammatory cascade of damage that eventually causes the disease that will take you down, wherever the weak link in your chain is, right?

So we don't have the enzymes to break down every amino acid off of wheat. The result is that we get these clumps of the pearl necklace. Now, every laboratory in the country will check for the 33-pearl clump, alpha-gliadin. Most every laboratory, that's all they check for...

Dr. Diulus: Right.

Dr. O'Bryan: ...is the 33. Now, 50% of celiacs will have problems with the 33. But 50% do not. Well, wait a minute. Celiac is a problem with wheat. But when you do the test for wheat sensitivity, it comes back negative. And the doc will say, “Well, yes, that’s true but you have celiac.”

They don’t have an explanation until you think about it and then it makes common sense, most people—and these studies are very clear—they’re reacting to the 17-pearl clump or the 21-pearl clump or the 9-pearl clump. Still causing the tears in the cheesecloth. Still causing all the problems but not recognizable when you’re only testing the 33-pearl clump. So the 33-pearl clump that every doctor will order the test on is a valid test. If it comes back positive, you got a problem.

Dr. Diulus: Right.

Dr. O'Bryan: But if it comes back negative, it doesn't mean you don't have a problem, it just means you don't have a problem with the 33.

Dr. Diulus: Right. High-false negatives.

Dr. O'Bryan: Yes. But doctors don’t know that until they listened to yourself or Dr. Hyman or me speak about this concept. And they go, “Oh okay, that makes sense.” So you want to use the laboratory that looks at more than just one clump of the pearl necklace. The more clumps you look at, the more comprehensive the test is.

Dr. Diulus: And even some hospital systems, when you order it, if the anti-gliadin is negative, they’ll cancel the rest of the test even if you order all of the appropriate tests. They’ll reflexively cancel it.

Dr. O'Bryan: We call that living in the dark ages. There’s no rationale to do that except, “Well, that’s the way we’ve always thought. And so that’s the way we’re going to think.” As you may know, Dr. Hyman and I teach for the Institute for Functional Medicine. And when we do our five-day course where we bring in doctors and introduce them into this whole bigger concept about healthcare, we always invite Deans of Medicine or Deans of Education at different medical school and universities.

And they all say the same thing after they’ve sat there for five full days. They all the same thing, “This is the
healthcare that we need today. This is absolutely right on the money. This enhances the effectiveness of everything we're doing.” And it will take us 10 to 20 years to implement.

**Dr. Diulus:** And you did your functional medicine training at the same time as Dr. Hyman, correct?

**Dr. O'Bryan:** Exactly, that's right. We were in the second class to go through in 1988, a bit ago. And I started listening to Dr. Bland who founded the Institute for Functional Medicine in 1978, his first talk in Chicago and it's been a privilege to do that. But doctors just don't know this information. They just don't know. So you want to do a test that's more comprehensive. And if your doctor doesn't know about those tests, tell them to find out. Just tell them to find out. I know there's going to be thousands and thousands of people listening to this interview, which is so great to be able to carry this message out.

So Dr. Hyman's office offers more comprehensive test. We have more comprehensive tests, same tests. Find your doctor. And if your doctor doesn't know about this concept, then look on Dr. Hyman's site, look on your Fat Summit site if you have the information. Look on my site. But it's not hard to find the information to find someone in your area who knows more comprehensive information on this.

**Dr. Diulus:** And depending on the laws in your state, you may even be able to order some of those tests yourself to get it done...

**Dr. O'Bryan:** That is correct.

**Dr. Diulus:** ...through some of the varying labs that people can access that.

**Dr. O'Bryan:** That's correct. And I do that in my website. I let people order on my website.

**Dr. Diulus:** Perfect. So if you test positive for any of those or a combination of those and then you fall into the celiac category, how does the testing come out? Talk about that for people if you have non-celiac gluten sensitivity.

**Dr. O'Bryan:** Sure. Any one of the clumps of the pearl necklace that comes back positive, any one—if you check 25 different clumps of the pearl necklace and two come back positive, it's really tempting to say, “Oh, there's only two out of 25, that's not so bad.” No, 98% of all the doctors in the country only test one. And if that one comes back positive, you've got a problem.

So just because you can look at more clumps, it doesn't mean if you only have two out of 25 that come back positive, that's not so bad. No, it's bad. It's gasoline on the fire. It is probably contributing to whatever your symptoms are. So when you look at these test results, it comes back positive, you got a problem. And it's non-negotiable. And we want to negotiate with it. We want to say, “Well, I don't feel bad if I have a little wheat once in a while. I don't feel bad.”

So let me give you just a way to hold that concept, if I may. There's something called the standard mortality ratio, and it's 2 to 1 with celiacs. That means for you, as a celiac, it's 2 to 1. What does that mean? I'm 64. If I were to have celiac disease, I don't, but if I were and my brother who's 63 did not have celiac disease, I'm twice as likely to die at 64 of something, heart disease, cancer, Alzheimer's, than when my brother gets to be 64. I'm twice as likely to die at 32 than when my brother gets to be 32. I'm twice as likely to die at 90 than when my brother gets to be 90 of something if you have celiac disease.

And that's with or without a gluten-free diet. The stats are the same. They looked at everybody when they did those stats. Yeah, this is a wakeup call. They looked at everybody when—those on the gluten-free diet and those not in the gluten-free diet.

**Dr. Diulus:** Fortunately, my life insurance company didn't seem to know that when I got it.

**Dr. O'Bryan:** Yeah, that is fortunate. And we'll talk about how to fix that, if not decrease those odds. They did a study where they looked at 1,356 celiacs, 1,356. And there's a 3,352 first-degree relatives, parents or siblings. They followed them for over 20 years. Every year, they got the blood test from their physicals. They had them fill out questionnaires: How are you doing? How's your health? How do you feel? How are you with the diet? Do you cheat? If you cheat, how do you cheat? When do you cheat? All of that.

And they followed them for over 20 years. What'd they find? Those that were meticulous at following the gluten-free diet, really working hard at it, their SMR was 0, meaning the same as everybody else, or 0.5, meaning half as often as twice as often, because it's twice as often for everybody else.

So it was half as often or 0. Those that were not meticulous, this is what they said and I've got it memorized because I've said it so often, “Death was most significantly affected by diagnostic delay, meaning not getting the test done pattern of presentation, meaning what your symptoms were; and adherence to the gluten-free diet. Non-adherence to the gluten-free diet, defined as eating gluten once per month, increased the SMR to 6 to 1. You are six times more likely to die early of something in life if you have gluten once a month.

**Dr. Diulus:** Got it. For somebody with celiac, yes.
Dr. O’Bryan: With celiac. You can’t be a little pregnant. You can’t have a little gluten because when you have an exposure, one exposure, you turn on the immune system to fight it and that activated immune system stays turned on for at least three months.

Dr. Diulius: Right. And it’s not dose dependent. So it can be a crumb in a jar of peanut butter.

Dr. O’Bryan: That’s why we came out with the digestive enzymes we did that work so well to protect people. They’re called GI Shield. And we recommend everyone take them who has a gluten sensitivity any time there’s a possibility of being exposed, any time. You take it beforehand because it really does work to protect you.

Dr. Diulius: Got it. Fascinating. So we’re looking at all of these things and you break down the cheesecloth, as you talked about. So the tight junction is open and you get a leaky gut but then we talk about malabsorption at the same time. And so for some people that’s a tricky concept. So if you’re opening the junctions and things are absorbing that shouldn’t, why are you getting malabsorption at the same time? They seem contradictory.

Dr. O’Bryan: That’s a really good point. When you absorb a pearl of a pearl necklace, it goes into the bloodstream and is traveling around and somebody says, “I need lysine molecule,” which is one of the amino acids. And that lysine molecule [suction sound] and goes right over there.

When you absorb a clump of the pearl necklace that may be 15 pearls long, someone says, “I need a lysine molecule,” and it goes in the bloodstream but just keeps traveling by because the lysine’s all locked up amongst all this other stuff. But if you redo a blood test for lysine, it might show that you have enough lysine in your blood stream but you have the symptoms of a lysine deficiency. Because you can’t break it apart from this clump of the pearl necklace. That’s the first thing.

The second thing is when you have—this is what killed my father. My father died of a massive coronary and when the autopsy was done the forensic pathologist called me and said, “Dr. O’Bryan, I don’t know why your dad died.” “What do you mean?”

“Well, he had a massive heart attack but there was no evidence of a clot. And he only had 30% blockage in his left descending coronary. Now, that’s the widowmaker. But that’s not enough to cause a heart attack. I don’t know why your dad died. I suspected foul play. I’m sorry but that’s the law. So I did a toxicology screen, there was nothing. I looked for needle marks all over the body, there was nothing. I did lung biopsy to see if he had breathed something, there was nothing. I don’t know why he had a heart attack. I don’t know. It’s the second time in my career.” This was the chief pathologist for the city of Detroit. So this guy had seen thousands and thousands and he’s a friend of the family.

So that sent me at a hunt and I won’t go into all the details—well, no I had to go into some of the details—that led me to Dr. Kilmer McCully. Dr. McCully who was at Harvard in the late 60s and 70s, publishing papers saying, “We have to put B-vitamins in the cereals because hundreds of thousands of people are dying from B-vitamin deficiencies causing heart attacks.”

And they thought he was a nutcase. No one was talking about this back in the 60s and 70s. And there was a lobbying effort to have Dr. McCully fired from Harvard. And if you follow the money trail, you’ll see who put the money up to get him fired. It was the people who were going to have spend millions of dollars to put the B-vitamins in the cereals, right?

Kilmer McCully was fired from Harvard. And the only place he could get a job was in a basement laboratory in the VA Hospital in Maryland. So he went from being Associate Professor of Medicine at Harvard doing first class research to a basement lab in the VA Hospital in Maryland, still doing first class research, publishing his papers. Now, he’s considered the godfather of homocysteine research.

So I called Dr. McCully and I said, “Hi, this is Tom O’Bryan.” “Oh, hello, Tom.” And I told him what happened. Then he was saying, “I’m so sorry.” And I said, “Dr. McCully, I know that when you have elevated homocysteine levels, they can cause basal spasm,” meaning the blood vessels to spasm. And for all of you out there, that’s a little pearl. If you have restless leg syndrome, you might want to check.

And he said, “Yes, it can cause basal spasm.” I said, “Can it cause basal spasm at the site of a 30% blockage, effectively making it a 100% blockage?” He said, “Yes, we reproduce it in the laboratory often.” That’s how my dad died. And no one knew he had an elevated homocysteine. I checked myself. I have elevated homocysteine. My brother does. My sister. Nineteen of my 21 first cousins. I made them all do the test because I’m the oldest. And I said, “Do the test.” And 19 of 21 of them have it.

So how do you get elevated homocysteine levels? It’s the lack of B-vitamins that your body doesn’t have enough folic acid, B6, B12, or trimethylglycine. Why do you get a lack of B-vitamins when you’re eating a good diet? Because the B-vitamins are absorbed right in the first part of the small intestine.
As soon as food comes out of the stomach, the B-vitamins break off really easily so they get absorbed right there through the cheesecloth.

But what happens when you have so much inflammation in the area? When you have so much inflammation in the first part of the intestines where celiac disease causes the shags to wear down first, when you have all that inflammation there, you can't get nutrients through. The receptors that pull in the nutrients just don't work. There's too much inflammation there. They can't get in. So the B-vitamins just go down and out with the bowel movements. So you have a B-vitamin deficiency that in my father's case caused an elevated homocysteine level that killed him.

Dr. Diulus: And you're not even talking about methylation issues here.

Dr. O'Bryan: Oh no. Oh gosh, no. No, it's just getting the nutrients into the bloodstream. They don't get in. The inflammation inhibits absorption. Yes, you get the tears in the cheesecloth. You think they'd fit right through but it's not that simple. It's really more like rocket science than that.

But there's so much inflammation the nutrients can't get in. The macromolecules can get pushed in and the immune system reacts to the macromolecules. And you make the antibodies with the molecular mimicry. Now, you go after your thyroid or your myelin or your joints or somewhere else. But the nutrients, the fats, this is the fats—

Dr. Diulus: Fat malabsorption. Yes.

Dr. O'Bryan: You don't absorb vitamin D, vitamin K, vitamin A. You get fat malabsorption. So people crave more food because our body's not getting enough food. And they get obese from it. That may be part of the story. That is not that you were gluttonous for food, it's that your body was saying I need more because I don't have enough. I don't have enough. And you were eating enough but it wasn't getting through the cheesecloth into the bloodstream for your body to use it.

Dr. Diulus: Yup. So to kind of bring this back and to sort of hit on fats again here since we are doing The Fat Summit, the link then between fat deficiencies and fat intake and heart disease and other medical problems—and I know it's kind of a broad topic and were sort of limited in time here, but can you just talk a little bit about those.

Dr. O'Bryan: Sure. One moment [blows nose]. I think it would be good not to cut out that last nose blow. Because, for everyone out there, I ate a little blue cheese last night. And I have a dairy sensitivity. And this is what happens. I didn't see it in there until I took a couple bites, "Oh, that's really good." And so I kept eating it. Here's the result. I get all these mucus congestion.

Dr. Diulus: Hey, my husband will probably kill me for this, but he had bad reflux and wanted to get off his proton pump inhibitors because I've been seeing a whole lot of people, men in their 40s, with pelvic insufficiency fractures far more than—and the only thing that we can find is that they had long-term use of proton pump inhibitors. So long story short, he swapped out some supplements but didn't want to change his diet. And then, finally, I made the whole house go gluten and dairy free, three days, reflux gone.

Dr. O'Bryan: High five to you.

Dr. Diulus: So, yeah, it's amazing. People come back into my office and I have put them on an elimination diet to really find all of the things that can be problematic. But it's pretty amazing how different people feel. And then once you realize those foods, just like you're having the symptoms now, that they trigger things quickly.

Dr. O'Bryan: You're absolutely right. And we joke a little high five about that story but you've just saved your husband many quality years of his life. That the wear-and-tear damage that accrues from proton pump inhibitors or other medications like that and the lack of absorption of nutrients your body ages quickly.

Dr. Diulus: Yup.

Dr. O'Bryan: Much quicker than it should. Your vitality in your cells goes down. Your life force goes down. And when you're in your 60s or 70s, you're like “Oh yeah, it's nice, ha-ha.” As opposed to “Well, that's really great, thanks so much man.” That you just don't have the vitality anymore. “Well, you know, I'm getting older.”

Dr. Diulus: Right.

Dr. O'Bryan: No, you're getting worn down.

Dr. Diulus: Right.

Dr. O'Bryan: Work down. That's the difference.

Dr. Diulus: Okay, fats. Yes.

Dr. O'Bryan: Now, I'll talk to you about fats. So what we have to understand is that when you have inflammation in your intestines, the function of the intestines is compromised, perhaps completely compromised or partially compromised. And depending on your vulnerabilities and the inhabitants of your intestines will determine how they're compromised. But if there's only one thing that you were to focus on to be healthier, this is my belief, and I believe, Dr.
Hyman and I have talked about this also before and he agrees. If there’s only one thing that you are going to do, and we really hope that’s not the case for anyone, but if there were one thing, what would it be to focus on? A healthy microbiome.

**Dr. Diulus:** Oh yeah, for sure.

**Dr. O’Bryan:** That the environment of your intestines be the healthiest most vibrant you can. Because if the environment’s healthy, you don’t get inflammation in the gut. And so what does it mean? Well, to have a healthy microbiome, you don’t throw gasoline on the fire.

**Dr. Diulus:** Right. We need a microbiome summit.

**Dr. O’Bryan:** That’s right. That’s exactly right.

**Dr. Diulus:** Yeah.

**Dr. O’Bryan:** And it’s just in the last 10 years that the information has just flooded out here about the microbiome.

**Dr. Diulus:** Right.

**Dr. O’Bryan:** And we think that we have these bacteria in our gut. And it’s a wakeup call. And I just read a paper a couple of weeks ago that startled the heck out of me. That the bacteria is different on the side that doesn’t have cancer. And women that have breast cancer consistently have the same high concentrations of bacteria in the breast cancer breast.

**Dr. Diulus:** Interesting.

**Dr. O’Bryan:** It’s like the microbiome of the gut. That there’s many, many more of them than there are of us, 10 times maybe 12, 15 times more cells of the microbiome and the bacteria than there are human cells. So we’ve had this discussion before over the second glass of wine after a long day of teaching at a seminar or something. So are we humans with a whole lot of bacteria or are we bacteria having a human experience? And it’s kind of a funny topic. But when you look at the science, it’s a rational discussion.

**Dr. Diulus:** Yeah.

**Dr. O’Bryan:** Can we step out of our preconceived notions of who we are, what’s the ‘we’ of who we are? And if we look at the science, it says, “Wow, we need to have a whole lot more respect for these bacteria that are along for the ride with us, right?”

**Dr. Diulus:** Right.

**Dr. O’Bryan:** So if there’s only one thing you can do, it would be to have a healthy microbiome. You want to absorb your fats, your good fats, have a healthy microbiome. You want to absorb proteins, have a healthy microbiome. And so what does it mean to have a healthy microbiome? Stop throwing gasoline on the fire. How do I stop throwing gasoline on the fire? You have to find out what the foods are that are gasoline to your body.

**Dr. Diulus:** Right.

**Dr. O’Bryan:** You have to find out. It’s not rocket science. And it makes so much sense and when you find this out, like you say with your husband, the response is just jaw dropping. After years of suffering, three days, symptoms are gone. You should notice that your body is functioning better within three weeks and that’s being generous, three weeks, you better know that you’re in the right place and you’re noticing some improvements. It could take two years for you to get better depending on how much damage there is. But within three weeks, you should know. And I know in your clinic, there is a similar philosophy that you need to know really quickly that you’re on the right track and that, that reinforces you staying on track, staying on purpose.

**Dr. Diulus:** Right.

**Dr. O’Bryan:** But after three weeks, if you aren’t noticing that you’re better, you go back and you re-evaluate. And our friend, Dr. David Jones, the President Emeritus of The Institute for Functional Medicine, he’s got a great story on this. When he comes into the room with a patient and he sits down and he says, “How are you doing today?” And they say, “I’m no better.” And he looks at the file. And he says, “Have you been doing...” “Yes.” “Have you been taking...” “Yes.” “Have you been doing...” “Yes.” And so they’re following his recommendations. He looks at the file and he looks at them. He closes the file, says, “Excuse me.” Stands up and walks out of the room. Closes the door.

**Dr. Diulus:** Okay.

**Dr. O’Bryan:** Takes a deep breath and walks back into the room and says, “Hi I’m Dr. Smith. Dr. Jones asked me to come in because he really doesn’t have a clue as to what’s wrong.” Let’s start at the beginning. And he starts over. Because he missed something. You should feel better within three weeks or the doctor has missed something. I don’t care if you’ve got cancer. I don’t care what you’ve got. You should notice that your body is functioning better within three weeks.
three weeks. Right?

Dr. Diulus: Right. Because some people notice it in a shortest, three to five days, right.

Dr. O’Bryan: Yeah.

Dr. Diulus: Right. Some it takes—Dr. Hyman’s 10-day detox. Right? Dr. O’Bryan: Yes, yes. But they notice in three days, they’re better. Dr. Diulus: Right, right.

Dr. O’Bryan: Now, the only exception to that is like when you stop coffee and you have three days of withdrawal.

Dr. Diulus: Or a week and a half of withdrawal

Dr. O’Bryan: Oh!

Dr. Diulus: Yeah. Anyone would ask why I started drinking coffee again. But, yeah, but I’m not giving it up again. Okay. If there was good reason, I would give it up again.

Dr. O’Bryan: Yes.

Dr. Diulus: Yeah. slow metabolizer versus fast metabolizers.

Dr. O’Bryan: Right. And those people have higher risks of heart attacks, higher risks of brain deterioration diseases. But if you don’t have that gene, you’re fine to have one to two cups a day.

Dr. Diulus: Right. And if you’re a fast metabolizer, you actually lower your cardiac risk...

Dr. O’Bryan: That’s right.

Dr. Diulus: ...with having caffeine.

Dr. O’Bryan: And I’ve got some really nice graphs in there that show that. The same with green tea. With one cup of green tea versus two or three or four about lowering the risk of heart disease, cancer, and mortality with green tea. It’s not that coffee is good or coffee is bad. It depends on your environment, who you are.

Dr. Diulus: Right. Right, for sure. So this has been fascinating. Is there one thing that you want to leave our listeners with that we didn’t talk about today?

Dr. O’Bryan: Well, I would say the whole concept of the microbiome. If you’re going to spend a little time—and I teach at my alma mater to these young interns about coming out into practice and things like that. And one of the recommendations I give, I also give to our patients, and that is if you’re willing to allocate one hour a week to learning something new, one hour a week, and you say “All right, every Tuesday at 8 o’clock,” and with the students, the interns it’s, “All right, every Tuesdays in the library at 8 o’clock.”

Because they’re in the library every night or whenever it is. Whenever you pick a time, one hour a week though. And you’re going to study something outside what you really need to study or you need to read. And for our audience here, I’d recommend one hour a week of reading a little more about the microbiome. Just go to Google and type in microbiome and see what comes up.

And here comes an article from GreenMedInfo or here comes an article from Dr. Hyman’s site or here comes an article from my site. You just look at the list, say “Oh I think I’ll read that one.” You click on it and you start reading, “Oh, that’s not interesting,” you go to another one. But you set a timer for one hour.

At the end of one hour, you’re done. And just do that once a week. Within three to four months, you really have it down. You hear what this doctor had said or this author had said or this author had said. And now you’ve got a bigger picture overview. And if you’re diagnosed with Hashimoto’s or you’re diagnosed with lupus, maybe you’ll do one hour a day if it’s really important to you. But be kind and patient with yourself. Don’t say, “Okay, I got to get it fixed today. I got to get fixed today.” Be kind and understand that base hits win the ballgame.

Dr. Diulus: Yeah.

Dr. O’Bryan: And there’s one last thing I’m going to say that I just came up recently and I think this is so powerful. I’m hoping, I don’t know how I will carry the message out but here it comes. And that is, the difference between a remission and a cure. Everybody wants to be cured.

Dr. Diulus: Yeah.

Dr. O’Bryan: Being cured means you don’t have the symptom anymore. You don’t have any biomarkers of a problem like blood tests or things. And you can do whatever you want.

Dr. Diulus: Right.

Dr. O’Bryan: It doesn’t happen. But that’s what we all want. A remission means you don’t have the symptoms anymore. You don’t have any biomarkers that are positive saying you’ve got a problem. And you’ve learned the lifestyle so that you can
live symptom-free and vibrant and dynamic.

Dr. Diulus: Yup.

Dr. O'Bryan: That's a remission. Everyone needs to consider remission from whatever your health complaint is. And how do you get to remission? You identify the lifestyle choices that got you where you don't want to be. And then when you reverse that and you notice usually very quickly, I'm getting better. I'm getting better. I'm getting better. You're reversing that and you get to where you want to be, that's a remission.

Dr. Diulus: Right.

Dr. O'Bryan: You think you can go back to the old lifestyle like, “I can have a little gluten once in a while.” No, you can't. Six-fold increase risk of early death at once a month, but you don't feel bad when you leave it once a month. But that's the statistics.

And that's true across the board. So please consider this concept of remission versus cure. One hour a week or more, and whatever the health topic is you're concerned about, be kind and patient to yourself and you will win the ballgame.

Dr. Diulus: Oh, that's very, very true to heart words of wisdom. I love it. I love it. And we see the same thing when you talk about remission. Even in osteoarthritis. It's an inflammatory condition with mechanical properties, right?

So when we inject into an arthritic knee, we're not changing the mechanics of the knee or the structure of the knee but the pain goes away for a period of time. And we have the same response when patients go into some remission with their osteoarthritis, when they get rid of sugars or the other varying things that are inflammatory form. Well, they'll come in and say, “My joint pain is gone.”

Dr. O'Bryan: Yes.

Dr. Diulus: And these same things, it's the same holds true for diabetes, for both type 1 and type 2. Type 1, we ease it off to manage with some insulin but it can be very different when you change lifestyle. And metabolic syndrome and all the autoimmune conditions.

Dr. O'Bryan: This is the big kahuna in healthcare. The big kahuna is understanding it's lifestyle choices that got us to where we are. Now, there's trauma that occurs, of course.

Dr. Diulus: Right. For sure.

Dr. O'Bryan: And there's inadvertent exposures to too much mercury in the fish or whatever.

Dr. Diulus: Right.

Dr. O'Bryan: All that stuff occurs but the lifestyle is the foods you eat. You can't keep eating high-mercury fish and expect that you're going to get rid of your symptoms if they're caused by high mercury.

Dr. Diulus: Right.

Dr. O'Bryan: So it's lifestyle. That is the key. Here's a great example, if you have a heart attack and you survived, everybody knows that, yeah, change your diet, do a little exercise, you're going to live a number of years, you'll be fine. If you have cancer and you go through protocols and it goes into remission, you know that you've got some time left. But what if you're diagnosed with a brain deterioration disease.

Scares the heck out of us. Because you think there's nothing you can do. You're toast. Well, Dr. Dale Bredesen who runs The Buck Institute at UCLA, the Alzheimer's Research Center at UCLA, published his paper of reversing 9 out of 10 card-carrying Alzheimer's patients by changing the lifestyle.

Dr. Diulus: Yup.

Dr. O'Bryan: And he went through 34 things on the checklist. Is it this? Is it gluten? Is it dairy? Is it homocysteine? Baba-baba-bababa. And then you just fix every one of them and the body wants to be healthy when you give it the opportunity to be healthy.

And you reverse Alzheimer's where people that were in facilities were able to be checked out to go back home to live with family because they're functional again. People who couldn't work anymore were able to go back to work, card- carrying Alzheimer's patients at UCLA. Want something to drop your jaw? That drops the jaw.

Dr. Diulus: Yup. Yeah, absolutely fascinating.

Dr. O'Bryan: It's all lifestyle. So be kind to yourself. Take an hour a week to learn more about lifestyle changes. And you will win the ballgame.

Dr. Diulus: Well, thank you so much, Dr. O'Bryan, for your words of wisdom. I'm sure our viewers appreciated this as much as I did. And we'll have the link for your website and your latest book that's come out is available.

Dr. O'Bryan: The Autoimmune Fix.

Dr. Diulus: The Autoimmune Fix. And it's available on Amazon...
Dr. Diulus: ...and in local bookstores. Yup, perfect. Well, thank you so much, I greatly appreciate this. And let's thank Dr. Hyman for making this opportunity available to us.

Dr. O'Bryan: Yes. Thank you so much.

Dr. Diulus: Yes, thank you.
Best Supplements for Gut Health and Autoimmunity

Wendy Myers, FDN-P, NC, CHHC with Tom O’Bryan DC, CCN, DACBN

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Wendy: Hello! Thank you so much for joining the Medicinal Supplements Summit once again. I'm your host Wendy Myers from LiveTo110.com. I used to take any supplement that I read a compelling article about and ended up with a grocery bag full of supplements and a pretty awesome supplement graveyard.

And that's why I brought together all these experts for the Medicinal Supplements Summit because I wanted to help educate you about what supplements you need and which ones you don't, and to help you make those little distinctions about what kind and what form of each supplement you want to be taking before you purchase.

Today, we're going to be talking about the best supplements for gut health and some distinctions about supplements that may contain gluten. And we'll discuss all the details about the problems with gluten, as well.

Today, our guest is Dr. Tom O'Bryan. He's an internationally-recognized speaker and workshop leader specializing in the complications of non-celiac gluten sensitivity, celiac disease, and autoimmune disease, as they occur inside and outside of the intestines. He's the founder of TheDr.com and he is a visionary behind the paradigm-shifting, The Gluten Summit: A Grain of Truth, bringing together 29 of the world's experts on the gluten connection to diseases, disorders, and a wide-range of symptoms and ages. You can learn more about that at TheGlutenSummit.com.

Dr. O'Bryan, thank you so much for joining us on the summit!

Dr. O'Bryan: Oh, Wendy, thank you! It's a real pleasure to be with you!

Wendy: Why don't you tell us more about you and your story and why you're so passionate about gut health and gluten awareness?

Dr. O'Bryan: Sure. It started with my Ex and I could not get pregnant 36 years ago when I was an intern. And I called the seven most famous holistic doctors I'd ever heard of and asked what they do in fertility. They all told me what they do. I put a program together. And we were pregnant in six weeks.

My neighbors in married housing—we lived on campus at the time—they asked if I'd work with them. And nothing had worked. And I called the seven most famous holistic doctors I'd ever heard of and asked what they do in fertility. They all told me what they do. I put a program together. And we were pregnant in six weeks.

Now, we know that every degenerative disease, every type of dysfunction in the body that occurs, chronic dysfunction, every one of them is inflammatory. At the cellular level, it's always inflammation. That's why we see so much about the anti-inflammatory diet and things like that. It's always inflammatory.

So the first rule of thumb is stop throwing gasoline on the fire. You've got to be careful with your food selections. And we think that if a food doesn't make us sick, if our stomach doesn't go into pain when we eat it, or we don't get really bad bloating, or it's not too bad if we get a little bit of bloating, we think it's not a big deal. We think we're okay. But for every one person with
a sensitivity to gluten, for example, that has abdominal complaints or GI complaints, there are eight that don't, that their complaints are PMS or seizures or knee pain or wherever the weak link in your chain is.

When you pull at a chain, it always breaks at the weakest link. It could be at one end, the middle, the other end: your heart, your brain, your liver, your kidneys. Your weak link is determined by your genetics and how you've lived your life so far. It's called the antecedents.

For example, if you eat a whole lot of tuna and you've got mercury toxicity, that's an antecedent. So between your genetics and the antecedents—how you've lived your life—that determines where the weak link is. And inflammation is the pull on the chain. So the more you're pulling on the chain, the more likely that weak link is going to manifest what symptoms for you.

So in the world of reproductive disorders, what we found was that every single couple had a food-related sensitivity that was a component or a major component to their problems. And as soon as you identified the foods and get them out of their diet, they started feeling better and they started functioning better. And we found that the most common food that people are sensitive to when they present to a doctor's office is gluten. That's the most common. There are many others. But that's the most common one.

So that got me into this world and the study of the impact of gluten sensitivity for people that have it, where's the weak link in your chain. And the weak link in the chain manifests most often as your immune system attacking that tissue, attacking that weak link in your chain, is by a process called molecular mimicry. That's a pretty good Scrabble term that people could use.

But basically, when your immune system is attacking the gluten in your bloodstream, it's going around everywhere looking for gluten, the antibodies are looking for gluten, there are some tissues of yours that looks like gluten a little bit. And the body gets confused and it goes after that tissue because it's inflamed.

And it might be your thyroid and you develop thyroid disease. Or it could be your joints and you develop arthritis. Or it could be your ovaries and you develop poor ovulation and problems with getting pregnant. It just depends on where the weak link in the chain is.

So that's about a four- or five-minute explanation of how I got into this.

Wendy: Yeah. [Both laugh]. I know with my client population, so many of them have gut issues and digestive issues. So why are so many people today having gut and digestive issues?

Dr. O'Bryan: Oh, that's a really good question. So let me give you a little background information to answer that. And currently, I did this thing called The Gluten Summit about three years ago. And we're working now for our next summit that will be coming out in September. And it's on autoimmunity. And it's called betrayal because your immune system that's supposed to protect you begins attacking your own tissue. And so this is the story of why that happens and what to do about it. And that's betrayal.

And atherosclerosis, the plugging up of your pipes, is an autoimmune condition in its initiating phases. And we think of cardiovascular disease as a number one cause of getting sick and dying. But the mechanism that causes cardiovascular disease is your immune system attacking your blood vessels. So that means the number one mechanism to getting sick and dying in the world today, is your immune system attacking self. And so the question is, “Why is that?”

Now, the reason I tell you that is because scientists have been telling us for over 10 years now—I think the first papers came out around 2005—that there is a trilogy in the development of autoimmune conditions. Wherever they are, your brain, your heart, your blood vessels, your liver, your kidneys, your joints, wherever. There's a trilogy. The trilogy includes a genetic vulnerability to that particular condition. You can't do anything about that. That's the deck of the cards you were dealt with. It doesn't mean you're going to get the disease. It means that's the weak link in your chain if you pull at the chain too hard.

So there's the genetic vulnerability. There is an environmental trigger that sets it off. The straw that broke the camel's back. And there's intestinal permeability or the slang term is the leaky gut. And scientists started telling us 10 years ago, “You can arrest—and that's their language—arrest the development of autoimmune disease by healing the gut.” That's why the gut is so important is because autoimmune mechanisms are the number one cause of getting sick and dying in the industrialized world. And you can arrest the development of autoimmune diseases by healing the gut.

That means that everyone needs to put this much attention. Just a tiny amount of attention, “What's the status of my gut?” And if you put a little bit attention on this at this point in your life and you do the right tests and you say, “Oh, my gosh, it looks like I've got a problem here.” “All right, let's fix that problem.” Then you're assured. It may be every three years or five years, as long as you don't have any symptoms, you're going to check your gut health again because by the
time you get symptoms, there's been a whole lot of damage occurring before you get the symptoms. And it just makes sense.

Nobody gets a disease overnight. Nobody gets Alzheimer’s in their 60s and 70s. You get Alzheimer’s in your 20s or 30s. It just takes decades of killing off brain cells before there's enough damage to where you can notice it. And then it increases in its intensity very rapidly.

Actually, the papers came out earlier this year that talk about with Alzheimer’s that you have to heal the gut. That the mechanisms that seem to initiate the entire process begin in the gut. And that’s true for Parkinson’s also. They’ve published those papers last year. The gut has a critical role to play in these baffling neurodegenerative diseases, and many other diseases, that we're stuck with today in our culture. That’s why the gut is so important because if you get a healthy gut, you arrest the development of the number one cause of getting sick and dying in the world.

Wendy: Wow! It's really profound how many people are affected by autoimmune disease and gut issues.

Dr. O’Bryan: That’s exactly right. Exactly right. The National Institute of Health tells us that 22 million people were identified with cardiovascular disease, 9 million people with cancer, but 24 million people with autoimmune diseases, more than anything else. They also told us that only one out of three people with an autoimmune disease are diagnosed.

That means that there are 72 million people out there right now that have gone to the stage of where they’ve been killing off tissue, killing off tissue, killing off tissue until there's enough tissue damage. Now you start getting symptoms and more symptoms and more symptoms. And you go to the doctor and you finally get the diagnosis you've got an autoimmune disease like you just got it yesterday. No, it's been going on for years under the surface without symptoms.

And that’s the message that we're carrying out this year is to understand this big picture dynamic of what happens to people so that it gives you the window of opportunity to address this. So when you invited me to come on and talk about the gut, my gosh, it’s just the perfect topic to talk about. It’s a critically important component for everyone, for themselves, their families, their children, to make sure you have a healthy gut.

Wendy: So where does one begin if they want to heal their gut? Say, they don't really have any symptoms—and I think people still need to be focusing in on gut health and taking care of their gut as much as possible—what are your recommendations to heal your gut?

Dr. O’Bryan: Well, your question, you’ve raised a couple of really good points. And that is, they don't really have any symptoms, so they think, “You know, what's the point? I'm fine.” Well, do you have thyroid symptoms? Do you have brain symptoms? Are you not remembering the way you used to? Are you stiff in the morning when you get up? Do you have an autoimmune mechanism in there somewhere that is not causing you gut pain?

And if you have an autoimmune mechanism, and you check for an autoimmune mechanism, then you know as you’re addressing that autoimmune mechanism, whether it's Hashimoto’s, thyroid disease, or rheumatoid arthritis, or psoriasis, then you know you also must address the gut. You must.

So your question is, “So what do we do to address the gut?” Well, the first thing is find out if you have a problem in your gut that without testing, we don't know if it’s really there or not. And the purpose of the testing, in my opinion, is my clinical opinion, is that you want the baseline so you can see where the problem is.

And once you have the baseline and you apply your protocols, and you feel great down the road, couple, three months, whatever it takes, depending on how much damage there is, and you feel great, now you have to go back and check again because people say, “Oh, I feel fine.” Well, it doesn't matter how you feel. You have to make sure the problem’s gone because by the time you felt it, the problem had been there for years already. So you have to make sure the problem is gone.

So that’s a concept I want to introduce to people, who haven't thought about this before, is you don't just keep chasing your tail on symptoms. You have to look for the mechanisms that identify there’s a problem going on. If you have the mechanism that says, “You’ve got a problem.” Then you apply the protocols to fix the problem.

But then when you feel much, much better, you have to go back and check and confirm that it's completely healed because if it's not completely healed, it's going to come right back again and you've wasted your money. So that's why the testing is so important.

Wendy: And what type of testing do you recommend? Is it a leaky gut test or a predictive antibodies test? Or what?

Dr. O’Bryan: That's a really good question. There is three categories of tests to consider. And working with a healthcare practitioner who's well trained in this is always helpful,
but for patients to ask the right questions. That’s what events like this are so good for is that people will learn. And I’ll have a couple of handouts for you guys so that you’ve got a list of questions that you can ask your doctors afterwards, “Hey, I really want to check this. Can you do this test or can you do this specific test?”

So that there’s three types of tests to do. The first type of test looks for intestinal permeability or the slang term is “the leaky gut.” That’s the first test. And there are a number of different ways of testing for that. The most comprehensive way that I have seen is by looking at antibodies to your tissue that deal with permeability.

So if you have elevated antibodies that are causing this intestinal permeability, you know you’ve got a problem, so doing the blood test for intestinal permeability is a great way to start. That test is a few hundred bucks. It's not cheap. But it's not ridiculously expensive. And then you find out. “Okay, it looks like I've got this condition called intestinal permeability. Okay, what do I do about it?” That's the first category of tests.

The second category of tests is looking at your microbiome. That’s a whole long discussion in itself that most people have heard some things about this bacteria in our gut. But the microbiome includes the bacteria, the good and the bad bacteria, the viruses we have in our gut, the fungi we have in our gut. That there’s a world down there that is quite, quite sophisticated and actually controls most of our body function.

There’s ten times more bacteria than there is human cells. And that bacteria has 100 to 150 times more genes than the human genome. And genes control function. So if there's 150 times more genes coming from the bacteria, are we humans with a whole lot of bacteria or are we bacteria having a human experience?

And after the second glass of wine, after a long day at seminars and things, my friends and I, we'll sit down. And we have these discussions. And it’s cute. But they’re really profound. I'll say, “Wait a minute. Wait a minute. If we get our biases out of the way and we just look at the facts, the facts are there’s more controlled messages coming from the gut going out into the body than there are from the brain going out to the body.” For every one message from the brain going down to the gut, there are nine messages from the gut going back to the brain. So if you look at it factually and get past the bias of, “What a ridiculous question,” it’s not so ridiculous.

And as a matter of fact, I just came back from London, England two days ago. Well, actually, we were in Barcelona, Spain. We went from London to Barcelona. I'm interviewing world leaders for this autoimmune betrayal event that we’re doing. And in London, I interviewed Dr. Alan Ebringer. Dr. Ebringer was the pioneer in rheumatology. That’s the study of joints and arthritis in the joints.

He's the pioneer that identified way back 30 years ago that bacteria in our gut, if we have too much of certain bacteria in our gut, our immune system makes antibodies to it. And it will cause rheumatoid arthritis. That bacteria and the immune system reaction will cause rheumatoid arthritis.

Remember I said that the antibodies look at the tissues. It looks like the food that they're fighting. Well, antibodies to the bacteria look like the surface of our joints. So the antibodies that are fighting the bacteria can start fighting our joints. And that’s the mechanisms that triggers rheumatoid arthritis for people.

So although it's important to take the recommendations from your doctor for symptom release, if you're going to deal with the problem, you got to get rid of that bad bacteria. And there are over 180 research papers published on this right now in medical literature, the association of the bacteria with the joints.

So this all is about the gut and how much of the good bacteria's in the gut, how much of the bad bacteria's in the gut. So you want to check your gut for the microbiome. That’s the second test you do. So the first test is looking to see do I have intestinal permeability. The second test is looking at the microbiome.

And the third test, as you referred to, is looking for antibodies against your own tissue. It's called a predictive autoimmunity panel. You're looking to see do you have elevated antibodies to your brain. I had three elevated antibodies to my brain. Three! I had myelin basic protein. And that's the mechanism that causes MS. And this was when I was in the peak of my triathlon career. I was in my late 40s, early 50's, and really strong and healthy and doing great. And I had said, “Yeah, I'll do this blood test. We'll check it out.” And it came back with myelin basic antibodies elevated, cerebella peptides elevated.

And cerebellum is a part of your brain that controls your muscle movement. And that's why elders don't walk with grace anymore. The main reason why is because their brain's been shrinking from cerebella antibodies for years, so you don't have the brain control to dance up and down the stairs anymore.

You have to hold the railing when you're walking down the stairs. That's your cerebellum that causes that.
And that's years of shrinkage. And you don't feel if the weak link in your chain is the cerebellum and you've got elevated antibodies knocking off your cerebellum cell by cell. You don't feel it. You just don't feel it until you're in your 60s or 70s. And you don't walk with grace anymore and you don't have the agility that you had 10 years earlier.

And the third one I had elevated was gangliosides. And that causes the whole brain to shrink, not just the cerebellum, but the entire brain. It causes numbness and tingling and lots of other problems.

So I looked at this and I said, “This is a mistake!” And the lab said, “No, it's not.” And I said, “Do this again.” He said, “We did. We know it's you. We did it again.” And it was accurate. And so that just gave me a reality check right away that what you feel has very little to do with what's cooking in your body, with what's going on in your body.

So the predictive autoimmunity panel looks at 24 different tissue antibodies against your own body, against your cells—six for your brain, three for your heart, your lungs, your liver, your gut, your reproductive system, your bones, your joints. So you look at 24 different tissue antibodies. So those are the three tests that I recommend you do so that you can find out, “What's going on in my body right now?”

Wendy: And the predictive antibodies test, is that with Cyrex Labs?

Dr. O'Bryan: That is correct.

Wendy: And if someone wants to find a practitioner that can do those tests, can they find them on your website on TheDr.com?

Dr. O'Bryan: There is two things they can do. On my website, we have about 450, maybe 480—I don't really know the number right now—practitioners that have gone through an extensive training with me to learn how to do the test and how to interpret the test results. They're called “certified gluten practitioners.” And there's a map on our website of the certified gluten practitioners all over the world. We've got one in Sri Lanka. We've got one in Qatar. Is that how you pronounce it?

Wendy: Cutter.

Dr. O'Bryan: Yeah. Yeah, Qatar. They're in London. They're in England. They're in Ireland. The vast majority's the United States. So you look for a practitioner in your area that is listed as a CGP—a certified gluten practitioner. If you can't find one, you could order the test on our site, if you want to. But I always recommend people go to their practitioner and get these tests done by your practitioner so that if they don't know about them, they're going to learn so they'll be able then to do this test with many other people also in the future.

So one of our handouts today for you is called “The Conundrum of Gluten Sensitivity: Why the Tests Are Often Wrong.” So you read this and it's going to make perfect sense to you because I used a lot of every day examples like if you pull at a chain, it breaks the weak link. But then, I also gave the studies and the references in the back.

And the recommendation is you take this handout to your doctor and say, “Would you read this please and would you order me this test? I understand you might not know about it. And that's okay. But let's learn about it together.” And then, you're helping your doctor to get more current, useful information on cutting-edge tests.

Wendy: Yeah, I was going to say a typical conventional doctor probably not going to know about these tests, and certainly probably not going to be covered by insurance, but very, very important.

Dr. O'Bryan: I agree. I agree to both points. I do.

Wendy: And that's right. You have the handout to take to their physician. We need to educate our physicians, our conventional doctors on these things.

Dr. O'Bryan: It's really one of the problems in our healthcare system today. The numbers are really shocking across the board in our healthcare system. But we really need to be kind to our doctors. They went into their studies to help people. To help the planet.

Wendy: Absolutely.

Dr. O'Bryan: But they got beaten into a system. How ridiculous to make somebody work 28, 36 hours nonstop on rounds, as if that trained somebody to think properly. Excuse me for being blunt about this. But they got beat into a system to think in a certain way. And they don't think outside the box. And so they just don't know. And they don't look for this newer information.

So if you can give your doctor this newer information in a nonthreatening way to say, “Hey, I recognize that you might not had a chance to review this type of information yet. Would you mind taking the time to review this and order this test for me so we can learn about it together?”

Most doctors will be open to a nonthreatening request like that. You give them a little slack because they're trained that they're supposed to know everything. And we go to our doctors expecting them to know everything about everything in our body and fix everything. And that's just so silly of us. But that's the way
There was a doctor who was a professor of pediatric medicine at Northwestern Medical School in Chicago back in the 80s called Dr. Robert Mendelsohn. And Bob Mendelsohn was a great, great practitioner. And he wrote a book called Confessions of a Medical Heretic because he called the system out.

He said, "Hey, we have this thing set up like we are direct, direct representatives of God in healthcare here. We wear these robes, these white robes. We have these sacramental instruments we hang around our necks called stethoscopes. And when we put on the white robe and the stethoscope, what comes out of us is considered the truth." And sometimes that’s true. But sometimes it’s not.

And so our doctors were beaten into believing what they know is accurate as long as they’re reading the literature about their particular discipline and using the drugs that they’re taught to use.

So give your doctor a little slack, be kind to them when you make the request, but take them this information and request. And if they refuse, then add another doctor to your team. You may not fire that doctor because you really like him as your pediatrician. But you add another doctor to your team that has more of a functional medicine approach.

Wendy: Yes. Yeah, that’s very, very sage advice. We love our doctors and no one can know everything. That’s why it’s good to have a team of people.

So let’s talk about leaky gut. For anyone that’s listening that doesn’t know what leaky gut is, can you define it? And what problems does this cause in the body?

Dr. O’Bryan: You bet! The leaky gut, we now know, is the gateway in the development of autoimmune diseases. Remember, the number one cause of getting sick and dying. It’s the gateway. So let’s talk about how that happens. So what problem might be caused by it? Any problem, anywhere in the body may be caused by intestinal permeability and the complications of this thing called "the leaky gut."

So let’s talk about what is this thing. And here’s how I explain it. “Mrs. Patient, your intestines are a tube. The tube is 20, 25 feet long. The inside of the tube is lined with shag carpeting. They are called your villi and your microvilli. Each shag is covered with a cheesecloth. The cheesecloth only lets really small molecules get through to get into the shag. But that’s how we absorb our vitamins and minerals, our proteins, and carbohydrates, and fats is by these really small molecules get through to get into the bloodstream."

Now, if you think of food looking like a raspberry, it’s got all bunch of little round parts to it, they’re all the same, when we eat food, it’s this huge, huge complex compound and our digestive enzymes have to break it down into smaller clumps and smaller clumps and smaller clumps until they’re really tiny pieces of that big clump of food.

And those tiny pieces go right through the cheesecloth into the bloodstream. Then our body will use that calcium molecule or that protein, the amino acid or the good fats, our body will use those molecules to make new bones or to make new brain cells. It’s the raw material. It’s the nuts and bolts to make our new cells. That’s the way our bodies are supposed to work.

But what happens, when you have intestinal permeabilities, that you tear the cheesecloth. When you tear the cheesecloth, now larger pieces of that big clump of food that’s being broken down into the really tiny pieces, larger clumps of it get through the tears in the cheesecloth before there’s been enough time for those clumps to go further down the intestines and be broken down smaller and smaller and smaller.

So they go through these tears in the cheesecloth. They’re called “macromolecules,” big molecules. And these macromolecules get into the bloodstream. Your immune system says, “Whoa! What’s this? This is not raw material I can use to make new bone cells. I’d better fight this. Immune system fight this.” And the immune system starts making antibodies to that big molecule, that macromolecule.

Well, if that macromolecule was beef, it’s like roast beef that you had for dinner last night and it just hasn’t been broken down into tiny little pieces yet, then your body makes antibodies to beef. Or if it’s tomatoes, you make antibodies to tomatoes or to bananas or to broccoli or to chicken. And all of a sudden, you do a blood test and you look at 90 different foods and it comes back. And you’re allergic to 15 or 20 different foods. And you say, “Oh, my God. That’s everything I eat.”

Well, of course, it’s everything you eat because these macromolecules are getting into your bloodstream. And your immune system’s doing exactly what it’s supposed to do to protect you. You do not shut down the immune system in these cases, taking drugs to shut down the immune system, rather heal the gut, help the digestion, so that you can break down these foods, heal the gut. And six months later, you go back and test again. And now, you’re allergic to two foods, maybe three, instead of 19 or 25. Whatever the number was the first time.
So when you're allergic to all these different foods, like tomatoes and beef and broccoli and cantaloupe and whatever, basil or garlic, whatever the foods are, now you run the risk of the molecular mimicry that I talked about earlier, where the antibody's fighting dairy. Some of the tissue that looks a lot like dairy in your body is the myelin around your nerves, the saran wrap around your nerves.

And so you may start attacking the myelin. That's the mechanism that causes MS. So you just go online. You type in...There's a component in milk called butyrophilins. You guys will listen to this again. You can write it down.

Butyrophilins. So you go online and you type in milk butyrophilins and multiple sclerosis. Boom, here comes the studies and you see it. You're, “Oh, my God!”

So what's one of the things that every MS patient should do? Either test to see if you have a sensitivity to dairy or just get dairy out of your diet and see what happens. Not that your MS goes away, but if you stop throwing gasoline on the fire, you start feeling better. You start functioning a little better. Some of your symptoms may reduce because this a component to doing a holistic approach to the disease you've been diagnosed with.

Wendy: Yes, let's talk a little bit about what action you can take to heal leaky gut.

Dr. O'Bryan: Oh, sure.

Wendy: I'm sure a lot of the listeners have identified with, “Oh, I have a lot of food sensitivities. Maybe I have leaky gut.” What are action steps they can take? What supplements can they take to move towards healing their gut?

Dr. O'Bryan: A really question. Two concepts to introduce here. The first one is the environment of the gut and the second is healing the tissue of the gut. So if you just take the vitamins and things to heal the gut, but if the environment, the microbiome stays the same, you're chasing your tail.

So taking the nutrients is really important. But you've created damage in the microbiome. If you have intestinal permeability, you have an imbalanced microbiome. It's called dysbiosis. It's another Scrabble word. For you guys who love to play Scrabble. Although, I think that's more than seven letters, so it doesn't count. It doesn't count. Sorry.

But you’ve got this environment in your gut that has developed over years that you have to address. You have to start working to figure out how do I get a healthier microbiome? And we talked about testing and all that. But two things to get a healthy microbiome that I recommend to all of my patients.

The first one is, “Mrs. Patient, when you ferment vegetables, the fermenting of process of vegetables actually creates bacteria—that's what fermenting is—that are really healthy for you. The bacteria are really, really healthy for you in fermented vegetables. So you want to have some fermented vegetables every day. Every day. Go to Whole Foods or another store. They've got 10 different types of fermented vegetables there. Just make sure they're not pasteurized because that kills all the bacteria.

And you take a forkful every day of different bacteria. Just take one fork. And one day, it's kimchee. The next day, it's sauerkraut. The next day, it's curry flavored. The next day, it's whatever you like. It doesn't matter which ones you take. Just vary it every day. And what you're doing is you're inoculating your microbiome with good bacteria freshly made on the vegetables that you're eating.

The capsules, the supplements are good. But there's lots of discussions these days about how smart is it to give huge dosages of one or two different probiotics—good bacteria—when there is thousands of different varieties of probiotics? And if we create a dominance of something that shouldn't be there, how balanced is that? So it's a discussion that a lot of scientists are talking about these days.

So although it's good to take the supplements of probiotics, depending on what you're trying to accomplish, taking fermented vegetables and varying them every day, which ones you take, is really quite, quite healthy for you. I don't know of anything that is a better idea for you in terms of the little things that you can do that's really important is taking some probiotics in the form of fermented vegetables every day.

The second part of that of that is to take some prebiotics every day. What are prebiotics? Prebiotics are carbohydrates or starches that are really hard to digest or indigestible, that the bacteria in our gut that you've inoculated with to get this good bacteria there or the good bacteria that's already there, they need to feed on something to grow and to populate and reproduce. And what they feed on is the prebiotics that are in different foods.

And what are some of the foods that are high in prebiotics? Well, the really famous ones are chicory root, Jerusalem artichoke, dandelion greens, garlic, leeks, onions, asparagus, banana. Wheat is in there. But I recommend people really consider whether they should be eating wheat or not.

And that's actually one of the dangers for you people that are
gluten-free. When you go on a gluten-free diet, 74% of the prebiotics that people have been getting in their diet is coming from wheat. So when you go on a gluten-free diet, which is quite healthy for many people to do, if you do that, you have to supply the prebiotics from other sources than wheat.

So that means a whole more vegetables in your diet and some of these other prebiotics. When you go online, you just type in “sources of prebiotics.” And then here come all kinds of different foods that will give you the list or different families of foods that will give you lists of prebiotics.

So some prebiotic every day and some probiotic every day to help to create a healthier gut. You may have really damaged guts. And so you’ve got to put some attention on getting rid of the bad guys that are in there as you’re putting more good guys in there. But that’s another discussion. But everyone benefits from taking some fermented vegetables and a little prebiotic.

If you notice, you’re a little bloated, get some gas, cut down the dosing. And some people could only take like one thread of sauerkraut. One thread is all they can take. Some people can’t even take that. So you just start with a little bit of the juice from sauerkraut and you put it in your salad dressing. You don’t have to taste it. You don’t have to take it by spoon if you don’t like the taste. Mix it in your salad dressing. It’s still going to do a job for you. And then you just gradually build it up. You often have to be patient with yourself and just do this in little increments.

Some people are going to take a half a cup of fermented vegetables and they’re going to be all bloated and stuff out of this, so be patient, be kind to yourself in doing this, but get a little prebiotic and probiotic every day to create a healthier environment of the microbiome.

Last point on this, because when the microbiome is out of balance, it creates intestinal permeability. So if you were to take the nutrients, that we’re about to talk about for intestinal permeability, but you’ve got this damaged gut, this damaged microbiome from years of the wrong foods or too much of the wrong bacteria in there, and that wrong bacteria stays there, but you’re taking the supplements to heal the gut, you’re chasing your tail. That’s why you cannot just take the supplements by themselves. You have to create a healthier environment that has contributed to the intestinal permeability you have.

Now, what are the supplements that you take? There are many, many supplements that have been shown to be of benefit in healing intestinal permeability. There are many. There are some that are the grandfathers that have many, many studies on them. Others have a couple of studies that are really... “Oh, that’s really interesting. Yeah, I’ll try that. That’s really a great study.” There are some that are like that and there are some that have many studies. So I’m just going to talk about the Big Boys. The ones that should always be included, in my clinical opinion, when you’re dealing with intestinal permeability. And you can try other things. But these are the ones that should be included.

First one, vitamin D. And the vitamin D you take is either in a capsule or a tablet because you want the vitamin D to go down into the intestines, into the environment of the intestines. Not the liquid D that goes under your tongue is absorbed really quickly. It gets into the body, which is really great for your whole body, doesn’t do so much benefit for your intestines if you’re trying to deal with the damage in your intestines.

So vitamin D, that’s the first one.

How do you know if you need vitamin D? If you have a leaky gut, you need vitamin D because vitamin D controls what is called the adherence junctions and the tight junction strands of the gateway in between your cells. Vitamin D controls that. So if your gateways are stuck in the open position... Think of like the Panama Canal. You have a boat comes up. The gates open. The boat goes in. Those gates close. Now they’re behind the boat. The water comes up and then the front gates open and the boat goes further down the canal.

In between your cells and your gut, it’s like the Panama Canal. The gates open a little bit. Some food goes in. The gates close. Food goes a little further down. Your immune system’s checking it out. Now, the food goes a little further down into the walls between the cells. And this is called “the tight junctions.” And the gates that were in the front, now in the back, they close. And your immune system’s checking it out. But those gates, the control of those gates that open and close are controlled by vitamin D.

That’s why you always want vitamin D. I don’t care what your blood levels are of vitamin D. You may have a whole lot of vitamin D in your bloodstream, which is great. But you need more control if you have intestinal permeability, so taking a little extra is very safe. It’s not going to harm you in any way to take 5,000 units a day of vitamin D in a capsule or a tablet form to work with the gut. That’s the first one.

The second one is fish oils. Fish oils have been shown... That’s the omega-3 fish oils. They’ve been shown to be anti-inflammatory in the gut and to trigger the healing of the damage of the intestines, the space between the epithelial cells. So the second one is fish oils.
The third one is curcumin. Curcumin comes from turmeric, the spice turmeric. And there are many, many different pathways, many genes that are turned on by turmeric and the active ingredient curcumin to help to heal the intestines.

The fourth one is glutamine. There are many, many studies that show that glutamine...Some doctors give glutamine exclusively. And that's really a good thing to do to give glutamine, to include it. But there are many things that glutamine does not do that vitamin D does or that curcumin does that are not going to be covered by if you just give glutamine. So you want to include it. But it's not the only one.

And then the big Kahuna in all of this that should always be included when you're dealing with intestinal permeability is colostrum. Colostrum is the first three days' of mother's milk. That when a baby is born and starts breastfeeding, it's not milk the baby's getting for the first three to five days, it's colostrum.

And what colostrum does, it turns on the genes. And the gut says, “Okay, baby, time to close those tight junctions now because you aren't in mom's womb anymore and there's going to be food coming down. Right now, it's going to be mom's breastmilk that's easy to digest for you. We've already given you instruction.”

When baby is born by natural childbirth, part of the bacteria that baby gets coated with coming down mom's canal is bacteria that gives the message, “This is the mammal that you're going to get milk from. And here's the code to break down that milk.” So when baby is born by natural childbirth, baby is ready for mom's milk. But colostrum comes in to say, “Close the gate of those tight junctions because you're not in mom's womb anymore. And the food that's coming for right now is going to be really safe. It's mom's milk. But pretty soon, in three months to six months, you're going to start getting different food. Close the gates.”

And that's just one of the things that colostrum does. It also anti-inflammatory. There are many, many benefits. One of the researchers said, “Although, there are many one-note players in healing the gut, only colostrum plays the entire symphony.” And I agree with that, that if there is only one thing that you were going to take, it's colostrum. And there are many different types of colostrum out there. They're probably all good for you.

The one that's on our website—I'm so proud of it—that this colostrum is licensed by six countries in Africa, by the government, and paid for by the government as the treatment of choice when people are diagnosed with HIV. They get this first, this exact colostrum. Why? Because it heals the gut. And people with HIV, they get terrible intestinal permeability. And that's what causes AIDS is terrible intestinal permeability. They can't absorb any nutrients and they start to wither away.

So colostrum heals the gut. It closes those tight junctions. So if there were only one thing I was going to take, it would be colostrum. But if you can include more...See there's a premise—sorry, this is another Scrabble word—called pleiotropism. And what it means is that all roads lead to Rome. That all the nutrients you choose to take lead to one result—heal the gut. So you don't just take glutamine. You don't just take fish oils. You don't just take vitamin D. You take everything that comes in there that you can comfortably take that is going to turn the genes on to reduce the inflammation and heal the gut.

So with that concept in mind... And I've found over the years and working with our patients that people, once they understand this idea, they say, “Oh, yeah, this makes a lot of sense. All right, I'll do it.” And I'll say, “Well, oh, this does this and vitamin D does this. Curcumin does this. Fish oils do this.” And there'd be a list. And they'd be taking six, eight, nine different things because they've all shown to be a benefit. And that's why we get good results is that we're not depending on just a one-note player here.

But I'd find after a while, after a month or two months, they start running out of a bottle. And they got to go get another bottle. But they're not going to go to the store for another week, so they'll just take what they've got. And they go get it later. And after a while, they started with six things, and now they're taking two. And they feel they're still taking their nutrition, right. But they're not taking all of them because it's so inconvenient to try to deal with this.

So we put these packs together. They're called gluten sensitivity packs, because gluten causes a lot of intestinal permeability. And these packs are designed to heal the gut. And I said, “Mrs. Patient, there's 22 nutrients in here that are going to heal the gut. Six pills, 22 nutrients, but it's one pack a day. Can you take one pack a day?”

And we just made it more convenient. So for those people that find that you're not being compliant with what your doctor recommends, figure out a way to make it easy for you so you can be compliant. But those are the nutrients. Those are the basic nutrients that I recommend always be included.

Oh, and the last one I forgot to talk about is probiotics—the good bacteria.
Now, you're already accomplishing that to a big degree by having just a little bit of fermented vegetables every day. But if you do a microbiome test and you see that you're deficient in lactobacillus or you're deficient in bifidobacterium—those are a couple of the main players there—then you take some lactobacillus or you take some bifidobacterium for a while, while you're taking your fermented vegetables every day.

Wendy: And so you're a big advocate against gluten consumption, a big contributor to leaky gut. What exactly does gluten do to the gut if one has a sensitivity to this compound in grains?

**Dr. O'Bryan:** Oh, thanks for the question. That's a really important one. And Hollon and Fasano and their team at Harvard published a paper last year. They looked at people that have celiac disease—that's when you have a wheat sensitivity that's destroying your gut—and who had been on a gluten-free diet for two years or more. They looked at people who had just been diagnosed with celiac disease. And that's when your shags wear down in the intestines. Remember, I said your intestines are coated with shag carpeting. Celiac disease is when your shags wear down and you've got Berber. And if you've got Berber, you don't absorb calcium. You get osteoporosis. That's why it happens in celiacs.

So they looked at celiacs two years on a gluten-free diet, celiacs recently diagnosed—so their shags were still worn down—people that had a sensitivity to gluten, but did not have celiac disease—they're called “non-celiac gluten sensitivity patients—and in patients that didn't have a problem with wheat at all. So they looked at all four groups. This is at Harvard. They looked at all four groups.

And what did they find? Everyone gets intestinal permeability immediately upon exposure to wheat. So as soon as that wheat, if it's not digested, it comes through your stomach into the small intestine, everyone gets intestinal permeability right away. Everyone! And their term was “all humans get intestinal...” This just came out from Harvard. There have been other studies in the past. But this one just validated it once again, so because people are going to say, “Well, I don't feel sick when I eat wheat.” So that's the rationale that people sometimes think about when I say this.

So we have a whole new body every seven years. We all know that. We've heard that before. Every cell reproduces in your body. We used to think brain cells didn't reproduce. But now we know. The science is clear. They do. And your heart cells reproduce. Every cell reproduces. Some of them really fast. Some of them really slow. So it takes about seven years before you have a whole new body. But the lining of your gut, that cheesecloth, it's called the epithelial lining. That cheesecloth reproduces every three to five days. Every three to five days, you have a whole new lining to your gut.

So you eat toast for breakfast. You tear the lining. But it heals. You have a sandwich for lunch. You tear the lining. But it heals. You have pasta for dinner. You tear the lining. But it heals. You have croutons on your salad. You tear the lining. But it heals. You have a cookie. You tear the lining. But it heals. Day in, day out, week after month after year after year, until one day, you cross an imaginary line somewhere. And it can be when you're two years old, 22 years old, or 62 years old, you cross that imaginary line with the straw that broke the camel's back. Wherever that is. Now, you've got leaky gut, intestinal permeability. It doesn't heal anymore. Maybe it's because your microbiome is so altered from years of some of the wrong foods going down there. And it's causing so much permeability every day that that may be the trigger. But somehow the straw that broke the camel's back, now you've opened the gateway into these macromolecules getting into your bloodstream. And wherever the weak link in your chain is, your brain, your heart, your liver, now, you start killing off cells. And eventually, you start getting symptoms. And then eventually, you get a diagnosis.

I'll give you one case example because it really sends it home. I'm giving you cutting-edge information that the gastroenterologists in training in Harvard are getting right now. This is the kind of training they get, much more in detail and more sophisticated. But these are cutting-edge topics.

So one example. A 44-year old guy comes in. He said, “My father died of a massive coronary at 44. My two older brothers died in their 40s of massive coronaries. When my last brother died at 28, I went to a cardiologist who put me on a statin, preventatively.” That's to lower cholesterol.

And he came in. He was the picture of health at 44 years old. He was 14% body fat. His diet was impeccably clean, never ate junk, only ate good food, whole grains, quality meats, lots of vegetables, that kind of thing, exercised regularly, had a good outlook on life. But he said, “You know, I'm 44 and I'm scared. I'm scared about this. And I heard about your test. I want to do your test.”

So he did the predictive autoimmunity test. Remember, I said there is 24 antibodies that are looked at. All three of the antibodies to his heart were sky high, all three of them. But he felt fine. He felt great. But you don't feel when your
heart’s being killed off. You don’t feel it. And he said, “Why is this?” And I said, “I don’t know. Let’s find out.”

So we checked. And he had severe sensitivity to gluten. And he had intestinal permeability. So we put him on a gluten-free, dairy-free diet. We gave him those gluten sensitivity packs to heal his gut. Six months later, the antibodies to his heart were down to normal. The gut was healed. The antibodies to wheat were gone. He said, “You saved my life!” I said, “Well, it’s everyone who went before us that did this, but it’s you that were compliant and you followed through.

But that’s the mechanism. That’s the mechanism for the number one cause of getting sick and dying in the world today. That’s what Betrayal is going to be about. I’m traveling the world interviewing scientists all over the world on this to take these really sophisticated concepts and make them every day understandable for people so that you take action now to see, “Where is the weak link in my chain?”

And this talk today is about the gut, which is so critically important because it’s the gateway in the development of autoimmune diseases.

Wendy: So clearly gluten out of the diet, needs to be excluded from your diet, any healthy diet. So, unfortunately, a lot of people are unwittingly consuming gluten in their supplements.

Dr. O’Bryan: Yes.

Wendy: So can you talk a little bit about that and maybe some companies, some supplement companies or ingredients on the label people should be looking for so that they can avoid consuming gluten in supplements?

Dr. O’Bryan: You bet. Rule of thumb—a product contains gluten, unless otherwise stated. That’s the rule of thumb because it’s too dangerous for people that have this gluten sensitivity to get…You just need an eighth of a thumbnail. One exposure of an eighth of a thumbnail of gluten, or that’s a milligram of gluten, and you’ll have elevated antibodies to the weak link in your chain anywhere from three to six months from one exposure. And you don’t feel it when that’s happening.

So you want to look for products that are proud to say, “Gluten-free,” because it’s more expensive to say, “Gluten-free.” And they are held accountable when they say, “Gluten-free.” If they don’t say, “Gluten-free,” you call the company and you find out. And in today’s world, every company should have easily accessible information. They should have analysis that say, “Yes, here’s the study where we looked at our product. And it’s completely gluten-free. It’s safe for you.”

So if a label doesn’t say, “gluten-free,” err on the side of caution. For people who have an identified gluten sensitivity, you have to err on the side of caution because you can’t afford to get an exposure.

Now, about exposures, it’s critically important to understand this. By the way, all the products obviously that I talk about are all gluten-free, and big, bold letters on the labels of everything that I’ve ever supported says gluten-free on it.

Exposures. There’s hidden exposures we get all the time. You go to a nice restaurant. You tell them you’re gluten-free. They have a gluten-free menu. It looks great and everything. But the chef on the back that’s stirring the gluten-free pasta in the pot of water, he takes that same wooden spoon and he stirs the other pot that’s regular pasta. That’s all it takes to get a contamination. So it’s almost impossible not to get a contamination. So what do you do?

Everyone, in my opinion, everyone, especially if they already have an autoimmune disease or an autoimmune mechanism going on, you err on the side of caution. You take the digestive enzymes targeting specifically gluten before you start eating. So just when you sit down to eat, you take, it’s called GI shield or Glutenza, either one of those, you take GI shield. Now, there are many digestive enzymes out there on the market that help to digest gluten. Many! I shouldn’t say all. But they probably all work to some degree or another.

But here is the kicker. You can’t let anything come out of the stomach into the small intestine that’s not fully digested or ready. And that takes about 90 minutes to 2 hours after you eat before everything goes into the small intestine because the sentries standing guard, if anything comes down, they activate the whole inflammatory cascade. The sentries of your immune system are right inside the first part of the small intestine. So if you’re taking a gluten-digesting enzyme, and it takes three hours to work, it’s not going to get the job done. It will further down the GI tract, but you’re going to get the inflammation.

So you want one that…And that’s why GI shield and Glutenza, they both work within 60 minutes to digest 99% of all hidden exposures to gluten. And they work on the top eight allergens, not just wheat. But they work on dairy, soy, egg, peanuts, fish proteins. They work on all of them. So it’s called GI shield or Glutenza, either one. GI shield has beet root fiber as it’s carrier. And Glutenza has rice brand as it’s carrier. Some people are sensitive to rice. And so that was a concern for them. Although, it’s not a problem. But it was a concern. So we put
together one with beet root powder. But those are the questions you want to ask. “How long does it take for this digestive enzyme to work? Please show me the evidence on that. Where's the study that shows it works within 60 to 90 minutes? Great, I'll use that product.” That's what you need to do to protect yourself.

**Wendy:** Well, Dr. O'Bryan, thank you so much for joining us on the summit. That was so informative. And I know that so many people are going to know exactly what they need to do now to heal their gut. So why don't you just, as a close, tell us where the listeners can learn more about you?

**Dr. O'Bryan:** Oh, thank you! The website is TheDr.com. And if you go to TheDr.com/glutenfactpack, all one word, TheDr.com/glutenfactpack, you're going to get a few things there. The first one is an interview I did with Dr. Jeffrey Bland, the founder of The Institute for Functional Medicine, great guy, very knowledgeable guy, and Dr. Deanna Minich who is an expert in fish oils and how great fish oils are for you, and food, how food is healing.

And we talked about this gluten sensitivity thing and what do you do about it. So you're going to get access to that interview. It's a video interview. It was really quite fun to do that, plus three of our favorite articles. And one of the articles is “The Conundrum of Gluten Sensitivity: Why the Tests Are Often Wrong,” that I talked about earlier.

So you can take these articles. You can read these articles and you could take them to your doctor and ask about them. So it's TheDr.com/glutenfactpack.

**Wendy:** Thank you so much, Dr. O'Bryan! And listeners, thank you again for joining the Medicinal Supplement Summit. The tens of thousands of dietary supplements sold today, only about a third have some level of safety and effectiveness that is supported by scientific research. That's what I'm trying to educate about on this summit.

So please take home this life-saving information home with you by clicking on the banner beside or below our talk and please share with your loved ones.

My name is Wendy Myers. And my hope is that you and your family experience abundant health. And that all begins with taking the targeted, correct supplements for you.
Extinguishing Inflammation: Putting Out the Fire with Real Foods
Sean Croxton and Tom O’Bryan DC, CCN, DACBN
Click here to watch this interview!

The purpose of this presentation is to convey information. It is not intended to diagnose, treat, or cure your condition or to be a substitute for advice from your physician or other healthcare professional.

Sean: Dr. Tom O’Bryan, welcome to the sessions.
Dr. O’Bryan: Thank you Sean.

Sean: I’m really happy to have you here because we normally talk about gluten, but we’re not going to be talking about that today. We’re going to talk about turning down the inflammation. Before we get to that, I want to know one thing. I want to know where that passion you have for health and digestion, where does that come from?

Dr. O’Bryan: As of eight years ago, we now know, no question, your future children have a shorter projected lifespan than you have. Our kids are going to die earlier than us. We’re killing ourselves off quicker than ever before in the history of civilization. Along with that, the World Health Organization tells us that we’re ranked second in overall health care; second from the bottom. And we all keep our heads buried. We don’t listen. We’d rather—

Look at the drug ads on television nowadays. We have beautiful women in tight blouses, men with big biceps, playing around talking about how great life is with this medication because they don’t have to worry about their symptoms. And in the background there’s this little voice saying, “Warning, this is going to kill you. It may cripple you.”

But we don’t listen to all that, we see the happiness. And we allow all this stuff to indoctrinate us to keep the status quo, keep going the same way we’ve been going in terms of taking care of ourselves. And now we know our kids have a shorter projected lifespan than their parents. That’s why.

Sean: That’s unfortunate to hear. Now, you’re initiating change. Last year you did a gluten summit. You had over 100,000 people sign up. Talk about how things are changing a little bit. How the word is getting out.

Dr. O’Bryan: Frequently now, I meet people in seminars or even in the airport who say, “Dr. O’Bryan, thank you so much, you changed my life, your summit. My daughter doesn’t have rheumatoid arthritis anymore” or whatever condition they were suffering from. People are telling people, are telling people. So this whole idea, which I learned from you, about how to carry a message out, is via the Internet, carrying your passion, carrying the message out. I learned this from you, so thank you very much.

Sean: You’re welcome.
Dr. O’Bryan: I believe this is the vehicle today to reach more people with the message. And the message is: there’s no magic pill that’s going to fix you. There’s no magic food that you avoid or you eat that’s going to fix you. We all need to learn, how do we take care of this body. And we’re fighting the system. We’re fighting the education that’s coming down to us in television, the radio, and newspapers and magazines. We have to be resistant to all of that and look at what makes sense.

What does the science tell us? How do I have to modify my lifestyle?

Sean: The message you want to get out today is about inflammation. What is inflammation and why is it important?

Dr. O’Bryan: Inflammation is critical in our body. Inflammation isn’t bad for you. Excessive inflammation is bad for you. Inflammation is our body’s way—my good friend Dr. Mark Houston, a vascular biologist at Vanderbilt University, he has a phrase for this that says it so well- the body has a limited number of options to deal with an unlimited number of insults. We’re bombarded all the time by toxins and exposures and the emotional stress of living in this crazy world that we live in.

But we only have a few ways that our bodies are designed to fight this or to deal with this assault on our systems. Those ways that we
have are built into us. They're part of our blueprint of life. It comes from our ancestors; how they survived when they were under physical stress, or chemical stress, or emotional stress. How did they survive? The way they survived was by the immune system activating an inflammatory cascade to destroy the bacteria coming in.

Sean: So it's a good thing.

Dr. O'Bryan: It's a good thing. But excessive inflammation is a problem. And the reason- we'll go to gluten for a minute- the reason why gluten sensitivity has just skyrocketed is not because of more education, which is great, but it is more people are getting sick. It's 400% more in the last 50 years, are getting sensitive and getting Celiac Disease or non-celiac gluten sensitivities.

The reason for this, what the science tells us, it's a loss of oral tolerance. What that means is it's the straw that broke the camel's back. There are too many insults coming into our system that our body's response mechanism, inflammation, we're just responding and responding and responding.

There are so many insults coming in that it's overwhelming the system and now it's causing tissue destruction and dysfunction.

It's a loss of oral tolerance, which comes from all of the environmental toxins we're exposed to like never before in history. From Bisphenol-A found in water bottles to Mercury that's in our fish, to lead that's in the air. We're exposed to so much it's overwhelming our bodies, and we have much more inflammation now. Here's a really good visual for this. It takes 976,000 mouse traps to fill a football field laid side by side. You and I both know the guy that figured this out, he used to wear pocket protectors—he doesn't anymore—it's Dr. Jeffrey Bland. Cock each mouse trap, put a ping-pong ball on each mouse trap. Now you have 976,000 mouse traps with ping-pong balls on them in this huge football field. You look onto the football field and all you see is white; it's all ping-pong balls. Walk along the sideline with one ping-pong ball, throw it out onto the field, it hits one mouse trap—POP!; now there's two ping-pong balls out there. The one you threw and the one you just popped.

They hit two mouse traps—POP POP! now there are four ping-pong balls out there. They hit more, 8, 16, etc. And you have what's called a cascade reaction. This thing has a life of its own. And the initial irritant is long gone. That's what happens in our bodies when we lose oral tolerance.

That's the inflammatory cascade that we have to get educated about that's going on inside of us and you can't feel it until you destroy enough tissue. Now your symptoms start kind of small. They gradually build up until you get worse and worse. You go to a doctor for the symptoms, and they don't look at the inflammatory cascade going on. They treat the symptoms like they show you on television. You take the drug for the symptoms.

But the cascade is still going on, and it's going to show itself somewhere else. That's what we have to deal with. So this summit that you're doing is critically important to learn all the little bits and pieces of what's pulling on your chain. What's going to cause that link of the chain to break? You know my analogy; you pull at a chain it breaks at the weakest link. It's at one end, the middle, and the other end.

It's your heart, your brain, your liver, your kidneys, wherever your genetic weak link is. The pull is all of the excessive inflammation because of the loss of tolerance. We've crossed that line. That pulls on the chain and link breaks wherever your weak link is. So it might be your brain, it might be your kidneys, it might be unexplained miscarriages; it just depends on what your genetic weak link is.

So that whole process, causing the loss of oral tolerance, pulling on your chain, here come the symptoms, and we think it's okay to treat the symptoms. So you treat the symptoms and you're wearing the statistics. Number two in the world, second from the bottom of overall health. We die earlier, more disease, more dysfunction. Our kids are projected to die earlier than ever before in civilization.

So the bottom line message on all of that is we need to learn what's pulling on the chain. And you just sensibly, rationally, reduce the pull on the chain. So you find out you're sensitive to a particular food, get the food out. You find you have heavy metals, get the heavy metals out. I guess I really can't eat my favorite fish because—all tuna now has Mercury. In general, Tuna has high levels of Mercury because the world is toxic with Mercury now.

Sean: This goes beyond gluten of course. Today we're going to be talking about six pearls, we'll say. Six foods that either pull on that chain or help to heal it. What's the first one?

Dr. O'Bryan: The first one is carbohydrate selection. They did a study for nutritionists-when I first presented this study at a nutritional symposium, everybody's jaw dropped. So they took two groups of people. One group, for 12 weeks, they gave them rye bread and rye pasta...
as their carbohydrate. The other group they gave oats, wheat bread and white potatoes for their carbohydrates. And it was 34% of their entire meal for 12 weeks.

Then they gave them a wash-out period of three months, go back and eat whatever you usually eat. Then they switched the groups. And they gave them the other rye bread/pasta or oats, wheat bread and white potatoes. What did they find out? They just looked for what turns on inflammation and what doesn't. They found out in the group eating the rye bread and pasta, it turned on 71 genes to down-regulate inflammation, to turn down the inflammatory cascade. In the group that ate the wheat bread, oats and white potatoes, it turned on 62 genes for more inflammation.

So the message here is, not that you don't eat white potatoes, but that you don't eat exclusively inflammatory foods. If you have a sensitivity to wheat, of course you have to get it out of your diet. But if you don't have a sensitivity to wheat, you're still going to turn on those genes for inflammation. You don't want a majority of your carbohydrates to be in that category of wheat breads, oats and white potatoes.

Sean: And those were the only foods that were tested?

Dr. O'Bryan: In that study, yes.

Sean: So we can't extrapolate this to mean something else in other grains.

Dr. O'Bryan: Right. But that just opened us the world to us, wow, even if we eat good carbohydrates like white potatoes, they may cause more inflammation in our bodies.

Sean: What else you got?

Dr. O'Bryan: GMO foods. I'm sure you'll have other experts talking about GMO foods.

**Sean:** Jeffrey Smith, the man.

**Dr. O'Bryan:** Oh yes. I just want to say one thing about GMO foods and how it relates to the digestive process in our intestine's ability to digest food. The BT toxin that is in GMO foods, the way that it works is: insects eat the food, the toxin gets in the insect's digestive system, it tears away at the intestine of the insect's digestive system causing big holes and severe intestinal permeability.

**Sean:** For someone that doesn't know, the actual food has the toxin in it. It reproduces to make it, like corn.

**Dr. O'Bryan:** That's right, when the food grows, it has the toxin in it.

**Sean:** That's weird.

**Dr. O'Bryan:** I know, that's the major concern. That's why it's outlawed in so many countries, but not in the U.S. This toxin gets into the intestines of the insect, it causes big holes in the insect's gut, and they die. That's the purpose of this toxin. Well, we now know it's causing intestinal permeability in humans when you eat GMO foods.

Not that it's killing you, no study has ever suggested that, but it's another pull on the chain of the intestines, that will contribute to more intestinal permeability, which in previous discussions we've shown is the gateway in the development of autoimmune diseases.

**Sean:** How do we know it's causing intestinal impermeability? Is there research on that?

**Dr. O'Bryan:** Oh you bet. The research was published, the first studies came out three years ago, with a few more since then validating it. These researchers fight tooth and nail because the politics of all this are terrible. Some researchers have lost their job because they speak the truth.

**Sean:** I've heard that story from Jeffrey Smith. Árpád Pusztai. Everybody should Google him if you can spell it. You mentioned off camera this toxin can be found in pregnant mothers and—

**Dr. O'Bryan:** Yes, my goodness. It is 92% of maternal blood, and 80 or 81% of fetal blood has this BT toxin in it. These are our fetuses still in utero and they've got it in them already.

**Sean:** Is there research this toxin can come from any other source? Or just genetically modified foods?

**Dr. O'Bryan:** Just GMO foods. As far as I know, I'm not an expert on this but from my own reading it's GMO foods.

**Sean:** Would this tell a consumer of course stay away from GMO foods, but also to prefer organic foods that are always GMO-free?

**Dr. O'Bryan:** Yes.

**Sean:** So we've got wheat bread, oats, and white potatoes, to reduce the quantity. Genetically modified foods just stay away from, period, if we can. What's next?

**Dr. O'Bryan:** Here's one on the other side of the equation that's really great for us: blueberries. And we'll talk about just two reasons why they're great for us. First, studies show just one cup of blueberries a day reverses the cognitive decline of up to 13 years within three years. So if you eat one cup of blueberries a day for three years, it reverses the loss of brain function of up to 13 years. That's tremendous. They're healthy for you, they're low on
the glycemic index, and they're loaded with antioxidants and polyphenols.

One of the polyphenols is called pterostilbene. Pterostilbene, they did a study with animals where they gave them azoxymethane. That's a chemical compound that we know causes colon cancer in people. Half of the group they gave them pterostilbene, the other half they didn't. What did they find? There was 57% fewer cancerous lesions in animals that also had blueberries with the azoxymethane exposure. 57% less colon cancer in these animals.

And what we know in humans is the same thing. It turns on the genes to calm down inflammation, and it turns on the genes to slow down cancer cell propagation and development. So once again we're talking epigenetics, what happens around the genes? This is one of those that turns on genes to calm down that cascade in the brain and the colon. There are other studies about the value of blueberries; it's just a really good food to include. Got to have it everyday.

**Sean:** Are you familiar with the “clean 15” or “dirty dozen”?

**Dr. O’Bryan:** I am.

**Sean:** The dirty dozen, I believe, are those produce that you should always buy organic. Blueberry's on that list.

**Dr. O’Bryan:** That's correct. That's why you always want to get organic blueberries. Here's a study that just came out very recently; earlier this week. They looked at a common insecticide in our food chain today, and we've seen studies before on this insecticide that showed that it causes ovarian dysfunction, kidney inflammation, and obesity. What they found is that that effect goes for three generation. This is unbelievable.

**Sean:** Is that the Goudy mouse?

**Dr. O’Bryan:** Nope this was not the Goudy mouse; I don't know what animals they used actually, I don't know. But it went for three generations, so the great-grandchildren had higher incidence of ovarian dysfunction and kidney inflammation and obesity than other animals whose great-grandparents did not get exposed to the chemical.

**Sean:** So you're not eating just for yourself, you're eating for your grandkids.

**Dr. O’Bryan:** That's right. And what the summary in that study suggested was that it's not changing the genes because the DNA was exactly the same, but it's affecting the epigenetics, what's happening around the genes. So the genes for inflammation keep getting turned on, keep getting turned on. The mechanism of activating the genes of inflammation kept getting turned on for the children and grandchildren.

**Sean:** I heard you have some news about high-fat diets that we need to know.

**Dr. O’Bryan:** Fat is not a four-letter word. It's not bad for you. Bad fat is bad for you. We know that, and you've had lots of interviews on that topic. There's another arena to consider with fats, and that is the volume of fats. And if we're having too much fat, higher concentrations of fats in your meals, especially if it's more undesirable fats, these fats can escort lipopolysaccharides into the bloodstream.

**Sean:** What are those?

**Dr. O’Bryan:** Let me complete this one part then I'll get back to what LPS are. What's important is it doesn't require intestinal permeability- the leaky guy- for these fat molecules to escort lipopolysaccharides into the bloodstream. They go right through the cell as opposed to between the cells.

**Sean:** Just in case someone is jumping into this today and they're not familiar with the term “leaky gut” can you give us a brief on what that is?

**Dr. O’Bryan:** You bet. Your intestine is a tube. The tube is 20-25 feet long; the inside of the tube is lined with shag carpeting. This shag is where calcium's absorbed, this shag fats, this shag proteins, all the shags absorb different proteins. Celiac disease, for example, is when the shag wears down and you get berber, you can't absorb nutrients and you get osteoporosis. But these shags have a cheesecloth covering them, so only certain sized molecules can get through.

So as food is going down the digestive tract and the digestive enzymes are breaking down the foods, it's got to be broken down smaller and smaller until the particles are so small it goes right through the cheesecloth and into the bloodstream. If you have tears in the cheesecloth, these molecules being broken down by the digestive enzymes that haven't been broken down enough yet to fit through the cheesecloth, now these larger molecules get through the cheesecloth that is torn and into the bloodstream.

They're called macromolecules, big molecules. These macromolecules get into the bloodstream and the brain goes, “woah what's this, this is not good for me. I better fight this. I can't use this to make new muscle or new brain hormones called neurotransmitters.” And the body makes antibodies for this macromolecule. Maybe the macromolecule is tomato, now you get allergies to tomatoes.
Or beef or bananas or really good foods; all of a sudden you do a test for 90 foods, you’re allergic to 20 foods. The doctor says you’re allergic 20 foods and—“Oh my god, that’s everything I eat!” Well yeah, it because your immune system is trying to protect you because these macromolecules got in and is just fighting it. So what do you have to do? You have to fix the cheesecloth and then the immune system calms down. So that intestinal permeability is or slang term is, the leaky gut. Tears in the cheesecloth.

You add up all the muscle cells, bone cells, kidney cells, organ cells, add them all up and there’s 10 times more cells in our gut and there’s 100 times more genes in this bacteria than in the human genome. Genes control function. So we haven’t had this discussion yet off camera on the second glass of wine, and we need to do this. Are we really humans with a whole lot of bacteria, or are we bacteria having a human experience?

**Sean:** I’ve heard that before.

**Dr. O’Bryan:** There’s 10x more of them than us, who’s us? They control function. It’s a whole new world of science called enteric neuroscience and how the gut controls brain function. It’s well known now. So, the good bacteria. Because of exposure to antibiotics, and they spray the food now with antibiotics in the field, and so we’re eating good vegetables but they have residue of antibiotics on them so we’re getting antibiotics all the time now. The antibiotics kill some of the good bacteria.

When the good bacteria, which is predominant, and just the army is there, you can’t have a lot of bad bacteria if you have an army around. You can have a few infiltrators once in a while, but they can’t get a hold and reproduce and form colonies because the good bacteria is there to protect you. But when you lose too much of the good bacteria, the bad bacteria is called opportunistic organisms. If there’s an opportunity, they’re going to thrive and take over. And they do. And when they take over, they produce an exhaust, and that exhaust is called lipopolysaccharides.

This exhaust, if it gets into your bloodstream, wrecks havoc. It’s as deadly as a gluten sensitivity, in terms of all of the possible imbalances, manifestations that we wouldn’t want. For example, in cardiac units, you have an acute heart attack, you survive, and you’re in intensive care. They check your LPS levels to determine if you’re going to survive for the next few days or not.

If you have elevated levels of LPS, lipopolysaccharides, you’re at high risk of sudden death when you survive a heart attack. In the brain, it is a primary trigger for depression that’s not resolved by medications, or good diets, or taking away food you’re sensitive to. Your depression stays with you? Lipopolysaccharides toxicity.

**Sean:** Are the lipopolysaccharides getting to the brain?

**Dr. O’Bryan:** They are. They can, I should say it that way. If you have a blood brain barrier defect. If you have leaky gut, leaky brain. And we’ve talked about that before. The mechanism that causes leaky gut, those same antibodies will cause leaky brain.

**Dr. O’Bryan:** When I do my lectures about autoimmune musculoskeletal diseases, we talk about rheumatoid or psoriatic arthritis, spondyloarthropathies; these different types of inflammatory arthritis. When they take fluid out of the joints of these people, they’re loaded with the bad bacteria. And when you deal with the bad bacteria, the arthritic pain goes away because the inflammation goes away. And so, rheumatoid it doesn’t reverse, if you’ve got the joint damage you’ve got the joint damage. But the symptomatology goes down dramatically when you treat the gut for the bad bacteria.

**Sean:** Chronic fatigue?

**Dr. O’Bryan:** Chronic fatigue, there’s a great study, Michael Mayes; he’s a molecular psychiatrist in Belgium. He’s published over 200 studies on this. He shows, and he does a really great case study of a 13-year-old girl, who all of a sudden after three bouts of antibiotics for a sinus infection that didn’t go away, she couldn’t get out of bed. She was on the swim team, she was a great student, and all of a sudden she couldn’t go to school, she couldn’t think.

Her parents took her to a doctor, it took two years. They told her it’s all on drugs. Her parents wouldn’t do it. They found Dr. Mayes, who did a test and found her LPS levels were sky high. It took two and a half years of aggressive therapy to get her LPS under control.

**Sean:** You said she couldn’t think. Is this a brain fog thing, too? I know a lot of people have that.

**Dr. O’Bryan:** Oh, tremendously. It’s a big cause of brain fog. You
eat a meal and you know it’s not the best food for you, the next day you wake up and you can’t really think clearly; one of the mechanisms may be the inflammation that’s coming from the LPS exposure.

_Sean_: How does somebody know if they have LPS?

_Dr. O’Bryan_: You have to do a blood test to find it.

_Sean_: What blood test is that?

_Dr. O’Bryan_: Well it comes from Cyrex Labs, Array #2. Look for antibodies to LPS. If you’re making antibodies, your immune system is saying this stuff’s in the bloodstream. And there’s only five ways that I know of that LPS can get in the bloodstream. Either you’ve got gingivitis, periodontitis, it’s coming in through bleeding gums. You’ve got an open wound and it’s coming in through that. You’ve got intestinal permeability, you’ve got septicemia which is an infection in your organs and you’re really sick, or you’ve got what we’re talking about here, lipid raft transcytosis, meaning fats are carrying LPS through a healthy gut into the bloodstream.

_Sean_: Well I’m sure our audience is wondering how do you get rid of something like that?

_Dr. O’Bryan_: You’ve got to do an antibacterial protocol. You have to identify where is it, where is it coming from. And for the docs watching this program, you have to remember biofilms. Many of these pathogenic bacteria have been there for quite a while and developed defenses to protect them and they have a force field around them called a biofilm.

The National Institute of Health tells us that people that die from antibiotic resistant infections often had biofilms and the antibiotic can’t get at the bacteria. It takes up to 100x the dosage of antibiotics to deal with the bacteria that for someone else would just take a single dose. It can take 100x if you’ve had bad bacteria at a little higher concentration for quite a while. You’ve been living with it, not feeling too bad. Not feeling too good but not feeling too bad. And it’s built a force field around it.

_Sean_: Is there any way to know if you have a biofilm or is it just trial and error?

_Dr. O’Bryan_: I don’t know how to identify that; it really is trial and error. The science is so new on this one.

_Sean_: So are you saying that, I know a lot of people love their high fat diets. There’s some nutritional organizations, books and what not that promote high-fat diets, ketosis and all of these things. Native people who eat high-fat diets like the Inuit, for example. Now you’re saying that high-fat diets you should completely take them off the table? Or are they a problem for people that just have lipopolysaccharide toxicity?

_Dr. O’Bryan_: Do not take them off the table, high fat diets are good. For some people they’re really good. For other people they’re not. There’s no one diet that’s right for everyone. But there’s nothing wrong with quality high fat diet, unless you have intestinal permeability. If you’ve got small intestinal bacterial overgrowth, which you’re going to hear more about at the summit, that would cause more LPS production. If you’ve got intestinal permeability, high fat diets can cause more LPS transference. But in general, high fat diets are really good for some people.

_Sean_: And when you say high fat diets are causing this rafting thing, do you mean all fats or particular fats?

_Dr. O’Bryan_: The research hasn’t been too specific yet, but coconut oil was fine and fats from coconuts. Palm oil was a primary raft for lipid raft transcytosis.

_Sean_: Do you think coconut oil wasn’t a raft because it’s anti-microbial?

_Dr. O’Bryan_: I haven’t thought about that but that’s a really good line of thought.

_Sean_: Okay, okay. So blueberries, good guys. We should be wary of the high-fat diets if it’s a problem for us. What else you got?

_Dr. O’Bryan_: The way we prepare our foods have an impact on that food’s effect on our body. Researchers call it thermal processing of food. What’s thermal-processing of food?

_Sean_: It’s a fancy way of saying you cook it.

_Dr. O’Bryan_: That’s right. So, when you cook food we always produce advanced glycation end products; they’re called AGEs. Advanced glycation end-products will trigger or cause intestinal permeability and increased inflammation systemically. So not saying don’t cook, I’ll give a summary at the end. A really good example is when you make bread. I don’t know if you know this, but I was a baker for many years.

_Sean_: You were a baker? You served people gluten?

_Dr. O’Bryan_: I did.

_Sean_: Get out of here. Like a gluten
Dr. O’Bryan: But when you knead bread, and I’d knead, 48 loaves, four dozen loaves a day, bread is a gooey substance, but when you bake it, you have this crust around it. That’s glycating the proteins. It’s a reaction between proteins and the sugars in the food that glycate it. When you eat that glycated food it triggers intestinal permeability, it triggers an inflammatory cascade in our bloodstream. Any cooked foods that have proteins and sugars in them merge and form this crust.

And it crusts your cells. That’s what advanced glycation end products do, they crust your cells. So you don’t want to carry that out. What they’ve shown is increased insulin resistance, increased kidney toxicity and kidney disease, increased obesity. You don’t want to eat just cooked food. You’ve got to have some raw foods in your diet. Not saying don’t eat cooked food, I eat cooked foods every day. But I always try to get some raw food in my diet.

They did a study where they looked at a low-AGE meal versus a high-AGE meal, and they found that the difference in blood flow into the brain, the carotid arteries, and how much the blood vessels opened for blood flow to go into the brain, at two, four and six hours. And what did they find?

After six hours, what they found, that the blood flow into the brain, the ability for that blood vessel to open up was 10x more compromised in a high-AGE meal compared to a low-AGE meal. And that just shows right away you have to have more raw food in your diet with your meal. Eat a nice big salad when you have a steak. But it was 10x more inhibition of blood flow into the brain.

Sean: Was that just on a general standard group of subjects?

Dr. O’Bryan: Yes.

Sean: So are you saying, because I know a lot of people out there, of course we want to eat some raw food with our cooked foods, but sometimes we don’t have that option. So anytime we have a just cooked food meal, we’re reducing the blood flow to our brain?

Dr. O’Bryan: Well that’s just what the researchers are suggesting, but there are things you can do. If you take polyphenols, you reduce that impact dramatically.

Sean: When you say take polyphenols, do you mean as a supplement or consume foods?

Dr. O’Bryan: Consume foods with polyphenols in them.

Sean: Which are-

Dr. O’Bryan: Which are red wine, gluten-free beer, any berries, tea, olive oil, chocolate or cocoa, coffee, walnuts, peanuts, pomegranates, popcorn, yerba mate, and other fruits and vegetables. So the idea is- and that’s a big list- have some polyphenols with your cooked meal, and you reduce the AGE impact dramatically. Just eat cooked food and you’re at risk of having this effect.

Sean: Peanuts. Typically in this health space people say not to eat peanuts. Now you’re saying it’s okay to offset this.

Dr. O’Bryan: Well the problem with peanuts is the aflatoxins. There’s also the sensitivity, if you have a sensitivity to a food don’t eat the food. But the toxins that can be in peanuts. I just look for organic peanuts. If I’m eating peanuts that’s what I’m going for.

Sean: Gotcha. Is there any supplement that people can take to offset, or a particular supplement, or kind of supplement that has high levels of polyphenols in them?

Dr. O’Bryan: There are. The mixed green supplements, the mixed berry powders. There’s one on my website, it’s great. I put a scoop of that in my protein drink every day. Any of the concentrates of higher quality organic fruits, powders for kids. There are lots of products that have powdered berries in it for kids. Or chewables that are fruit based. The goal is to have those polyphenols in the product.

Sean: So earlier you were talking about peanuts and how people can have a sensitivity to peanuts. Let’s say someone does have that sensitivity and they consume peanuts. The immune system turns on, how long does it stay turned on for?

Dr. O’Bryan: The beer. You said gluten-free beer. If someone is not gluten sensitive, they know they’re not, can they drink the regular beer?

Dr. O’Bryan: Yes. No reason why not. Let me be on air to say this. Regular beer is okay for you if you don’t have a gluten sensitivity.

Sean: Wine. One glass of wine, or you’re really trying to load up to offset that cooked food. People want to use that excuse, I only ate cooked food today, and I’m going to drink some wine tonight.

Dr. O’Bryan: Theoretically, the higher the polyphenol content, the greater the inhibition of the detrimental effects of AGEs.

Sean: Is there any supplement that people can take to offset, or a particular supplement, or kind of supplement that has high levels of polyphenols in them?

Dr. O’Bryan: There are. The mixed green supplements, the mixed berry powders. There’s one on my website, it’s great. I put a scoop of that in my protein drink every day. Any of the concentrates of higher quality organic fruits, powders for kids. There are lots of products that have powdered berries in it for kids. Or chewables that are fruit based. The goal is to have those polyphenols in the product.

Dr. O’Bryan: That’s the basis of
why people don't heal on a gluten-free diet. Why is it that only about 30% of celiacs heal in two years on a gluten free diet? It's because the cascade has a life of its own and it continues. If you have intestinal permeabilities—leaky gut—every patient that had an adverse reaction to food, meaning an allergy or a sensitivity reaction, every one of them had intestinal permeability, in the study that I read.

And every patient that was checked still had intestinal permeability six months after discontinuing the food. The cascade has a life of its own. You have to put some attention on calming down the fire. You must begin an anti-inflammatory lifestyle to put the fire out. That means everything you're learning on this digestive summit, everything is a piece of the puzzle.

**Sean:** How hard is that though? There are so many things that could trigger the immune system; you can't expect someone to completely remove anything and everything from their diet that's going to trigger that. Where does being realistic come in?

**Dr. O'Bryan:** That's a critical concept to consider. The study that showed this one. Why is it that a carrot has this thicker fibrous covering around it? Why is it kids want carrots or peas? Because carrots are the sweetest of all vegetables, they've got more sugar than almost any other vegetable. So kids will eat carrots because they're sweet on their taste buds.

But we peel off the outer layer, which is fibrous which doesn't taste or chew as easily. When you peel off the outer layer, you're exposing the meat of the carrot to the air. There are bacteria in the air. The bad guy bacteria we talked about earlier that's in our guts, we breathe it, and it's in the air. When you peel the carrot you remove the protective shield from a carrot so the bacteria will land on the exposed carrot meat.

Kept in the refrigerator at five degrees Centigrade for four days, you eat that carrot, it now has colonies of LPS at concentrations high enough to cause intestinal permeability. Technically for the doctors, it stimulates toll-like receptor four, which is the gateway into the development of intestinal permeability.

**Sean:** So these are skinned carrots. If the skin's still on the carrot it's fine.

**Dr. O'Bryan:** Those bags of baby carrots, you can't do it because the level of LPS. When you leave them for a few too many days and they feel slippery, that's all bacteria. Then we eat these things. You cause more intestinal permeability- the leaky gut- pulling on your chain, the weak link, here come the symptoms; the straw that broke the camels back. The LPS from the carrots or diced onions, same thing. Four days. You pulled a little too hard on that chain and here come the consequences.

**Sean:** We've covered a lot of stuff here. I know people tend to remember two things, the first thing they heard, and the last thing they heard. So one more time, can you give us five or six action steps to take from this presentation?

**Dr. O'Bryan:** Oh you bet. Have more polyphenols in your diet. Look at the list of polyphenols. Have more of them in your diet. Have blueberries in your diet regularly to help your brain and protect your gut. Eat more fresh food. Fresh fruits and vegetables with your meals. Avoid GMO foods whenever you can. As much as possible have organic.

**Sean:** Your website is thedr.com. You're the host of the Gluten Summit. If someone wanted to find out about the Gluten Summit, where should they go?

**Dr. O'Bryan:** You can go either to thedr.com or to theglutensummit.com

**Sean:** Actually just real quick, talk about some of the presenters you had at the summit.

**Dr. O'Bryan:** I traveled the world. I went to the world's experts and I went to the top people in the world. Professor Michael Marsh at Oxford in England. The godfather of celiac diagnosis. He'd never been interviewed. Unbelievable. This is just a guy in his office doing his
research, he writes these papers that change the way doctors think and he’d never been interviewed.

And what he told us about non-celiac gluten sensitivity was shocking. Professor Umberto Volta, Bologna, Italy. Professor Yehuda Shoenfeld in Tel Aviv, the godfather of predictive autoimmunity. This whole world of identifying the weak link in your chain before it breaks, before your diagnosed with an autoimmune disease. How do you find out about this?

We talk about that in great detail on the summit. Then I had seven world-class nutritionists who talked about how do you begin implementing a gluten-free diet?

Sean: It was a fantastic and great event. While we’re on this gluten topic, I remember a couple months ago, there was a study that said that the whole gluten thing was a fad and a hoax. What was wrong with that?

Dr. O’Bryan: I just did a live cam that’s available on our website, you can click on it at thedr.com and you can watch the live cam. I just put it all in perspective; I call it the hullabaloo. And what happened was a blogger in Great Britain wrote a blog saying “this is a fad,” and others have done this but he malquoted a study. The study came out in Gastroenterology, a very reputable journal, in 2013. The title of the study was “No Effect of Gluten in Self Reported Non-Celiac Gluten Sensitivity when FODMAPS Taken Out of the Diet.” Those are carbohydrates.

So this blogger said, “See? Here’s the study, no effects of gluten.” That’s not what they said. If you read the study—when they looked at the group that they were going to check for this study—if they had elevated antibodies to gluten, they were excluded from the study. That was 37% of the people who were candidates for the study. They took them out, “nope you have gluten sensitivity, and so we’re not going to include you in the study.” If they had the gene for celiac disease, HLADQ2 or DQ8—which we now know 30-40% of people with non-celiac gluten sensitivity have the gene.

But if they had the gene for celiac, they were taken out of the study. So that right there was at least 30-50% of the potential candidates were taken out of the study because they had non-celiac gluten sensitivity. What they were left with were people that had some type of a problem with wheat, but they excluded all those that obviously were NCGS, non-celiac gluten sensitivity patients. Even then they had 8% of people left in their study actually reacted to the protein.

Even though they didn’t have the markers initially, they reacted to the protein. So what the researchers were trying to do was they were looking for people with GI complaints. They took the carbohydrates out, every one of them got better, the fermentable carbohydrates.

So the title is, “No Effect of Gluten in Self Reported Non-Celiac Gluten Sensitivity when FODMAPS Taken Out of the Diet.” Well, they cherry-picked their subjects. On my presentation there’s a picture of two cherries. That’s cherry picking.

Sean: They took out all of the people that could have been having a problem with gluten.

Dr. O’Bryan: Exactly. They took them out because they weren’t looking for problems for gluten. They were looking for problems with the carbohydrates in wheat, not the gluten in wheat, so they took out the ones that had the problem with gluten. So they shouldn’t have said no effects of gluten, because 8% of the people still in the study, did have an effect from the protein, so they should’ve titled the study, “Minimal Effects of Gluten in Self-Reported Non-Celiac Gluten Sensitivity when we take out the FODMAPS.”

Now, eight months later, just two months ago, they published another study on non-celiac gluten sensitivity and depression. They showed people with non-celiac gluten sensitivity, 92% of them will suffer from depression, with NCGS. It’s the same team of researchers. And they’re saying when you look at non-celiac gluten sensitivity, 92% suffer from depression.

So they mislabeled their study to say no effects, so someone who doesn’t read the study, and just looks at the title, uses it for fodder to be sensational, and so he wrote his blog, and the London Telegraph picked up on it, it was on the front page of their paper. The London Times, then it went to The Huffington Post, then the Wall Street Journal, then it went to Forbes, and they all said, “no effects of gluten, study says.” No it doesn’t. It doesn’t say that.

Sean: How much did that tick you off?

Dr. O’Bryan: Oh man. It’s like, “really?” You know why it’s a problem? Because tens of thousands of people will dismiss what they suspected was a problem of gluten, and then the inflammation cascade continues, their weak link will be their cerebellum. I did a study of 316 patients in my office; I checked them all for cerebellum antibodies. That’s antibodies to a part of your brain that controls how your muscles move. 26% of them had elevated antibodies. Everyone that comes in the office, 26% of them had elevated antibodies to their brain. Killing off their brain. It
doesn't lay dormant, it's killing brain cells. Every day a few more. Why is it that these people in their 60's and 70's they can't walk very well.

They don't have good balance; they're apprehensive about walking down stairs. Their cerebellum's been burned out from years of being attacked. That's why that upset me so much, because tens of thousands of people believe Forbes and Wall Street Journal and London Times. Because some-

Sean: Say it.

Dr. O'Bryan: Challenged. Some challenged blogger going for sensationalism represents himself as an expert. And the result is tens of thousands of people will be misled.

Sean: It's so easy to become an expert online these days. Things just catch fire.

Dr. O'Bryan: So this time together with you, thank you for this opportunity. It's just to give you some pearls. Some little pieces of— "what do you mean cooked food is bad for you?" it's not bad for you, that's just life. You cook food, you produce AGEs. So cut down on the percentage of your meal being cooked food. Increase raw foods. Eat some blueberries, you're fine.

Don't eat carrots four days after they're peeled, you're fine. Just learn a couple of these tips because you have to learn all these tips to take care of this machine. So that you can dance through life and take your grandkids hiking in the Alps in your 80's.

Sean: One last thing, is there ever going to be another Gluten Summit?

Dr. O'Bryan: There is, May of 2015.

Sean: Thanks so much.